START

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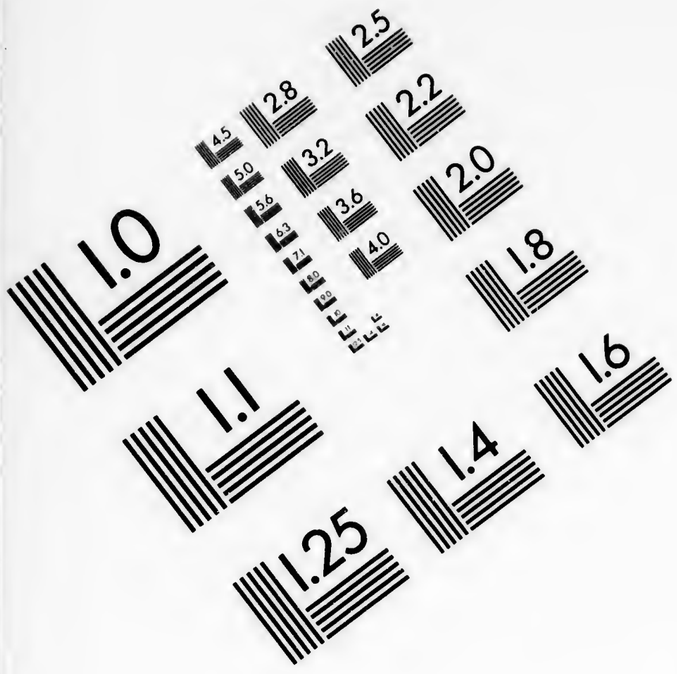

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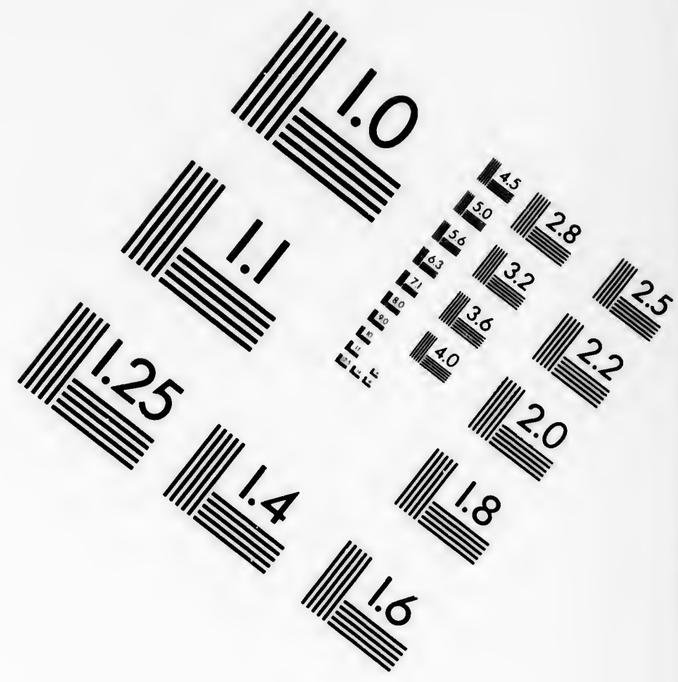

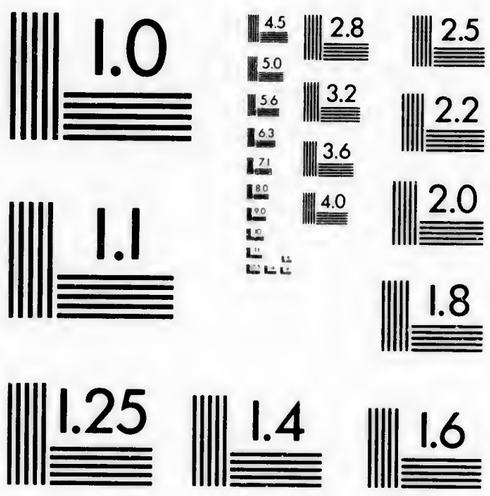

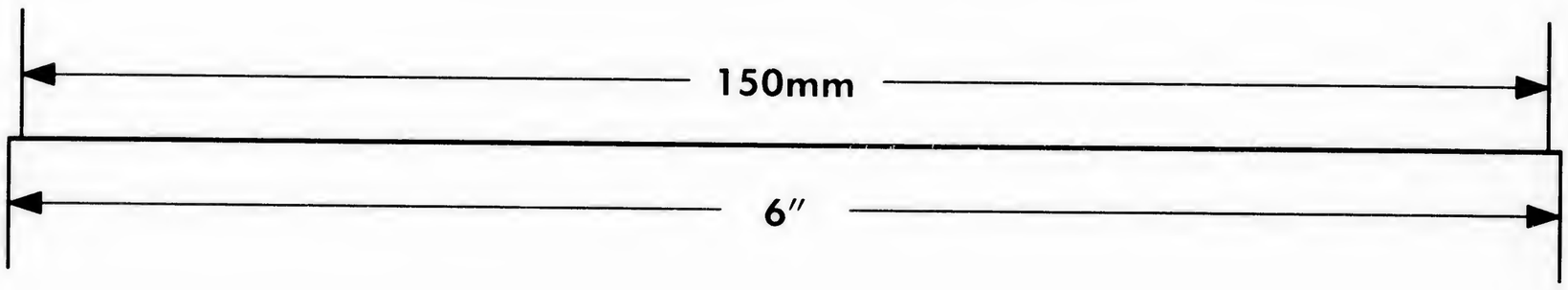

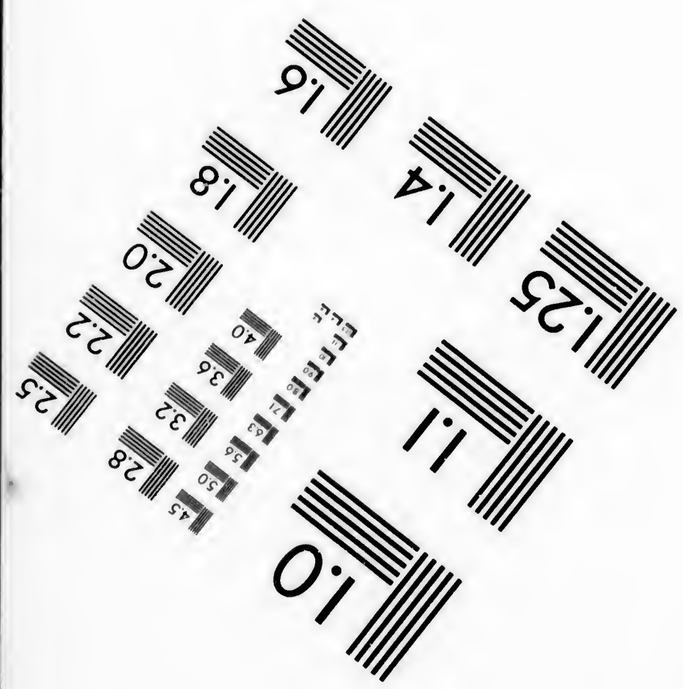

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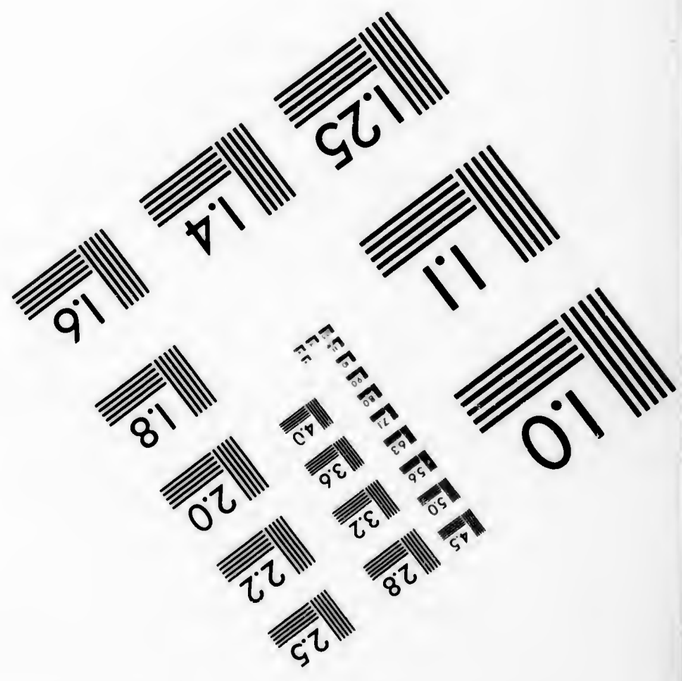

THE PENNSYLVANIA STATE COLLEGE

A STUDY OF THE DAIRY HERD RECORDS OF THE PENNSYLVANIA STATE COLLEGE EXPERIMENT STATION

BY

A. LELAND BEAM

THESIS FOR THE DEGREE OF MASTER OF SCIENCE

1916

Approved May 26 1916.

By F. S. Putney

Acting Professor in Dairy Husbandry

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INTRODUCTION

For many years The Pennsylvania State College has maintained a herd of dairy cattle. In 1889, however, the entire herd was sold and new stock purchased from which many cows in the present herd have descended. The purpose of the College in making this change as stated in the Report for 1890 was as follows: "It is not our purpose to attempt to maintain a herd of full blooded animals altho a few of these will be bred, but rather to grade up from the stock at hand in such a way as would be practicable for any good farmer, thus securing animals which will be valuable as milk and fat producers, as well as for experimental purposes". "This second herd included a pure bred Guernsey bull, a few pure bred Guernsey cows and a number of grade Guernsey cows".

Since 1890 a regular system of records has been kept and care taken to account for all the milk and butter fat produced by each cow. To obtain these records, weekly milk sheets have been kept in the barn and all milkings have been recorded, at first in pounds and ounces but later in

pounds and tenths of a pound. Monthly composite samples* were taken for each cow, the tests of which were used in figuring the corresponding fat production. At the end of each month this data was copied into permanent herd record books from which the following tables have been compiled.

* Beginning in 1908 weekly composite samples were taken.

OUTLINE

In order to systematize the study of the records a definite plan has been followed and the data tabulated in regular order on the following questions:

1. At what age do cows in this herd stop increasing in the flow of milk and begin to decrease in milk production?

2. Can any variation in fat content be traced to age?

3. Can any variation in milk yield be traced to age?

4. What percentage of her highest production is given by a heifer with her first calf?

5. Does dropping a calf young have any effect on the later production of a dairy cow?

6. What percentage of the original stock have descendants in the present herd?

7. Tabulate records showing the influence of the pure bred Guernsey sires on grade Guernsey cows.

8. Tabulate the reasons for the disposal of the dairy cattle together with the average

mortality of the herd.

Only the records of the grade Guernsey cows have been studied and tabulated in this thesis.

A STUDY OF THE DAIRY HERD RECORDS OF THE PENNSYLVANIA STATE COLLEGE EXPERIMENT STATION

At What Age Do Cows in This Herd Stop Increasing In The Flow of Milk and Begin to Decrease in Milk Production?

In collecting data on this question three methods were used, one employing lactation periods, another yearly periods, and a third twelve month periods. In the case of lactation periods of more than one year only the first twelve months records were used: the yearly or calendar year periods extended from January first to January first; and the twelve month periods extended twelve months from the time of freshening. Only those cows were used which had records of five years or more. Thus by the first method 44 cows with a total of 338 lactation periods were used; by the second, 61 cows with a total of 464 yearly periods; and by the third, 40 cows with a total of 260 calendar year periods were tabulated.

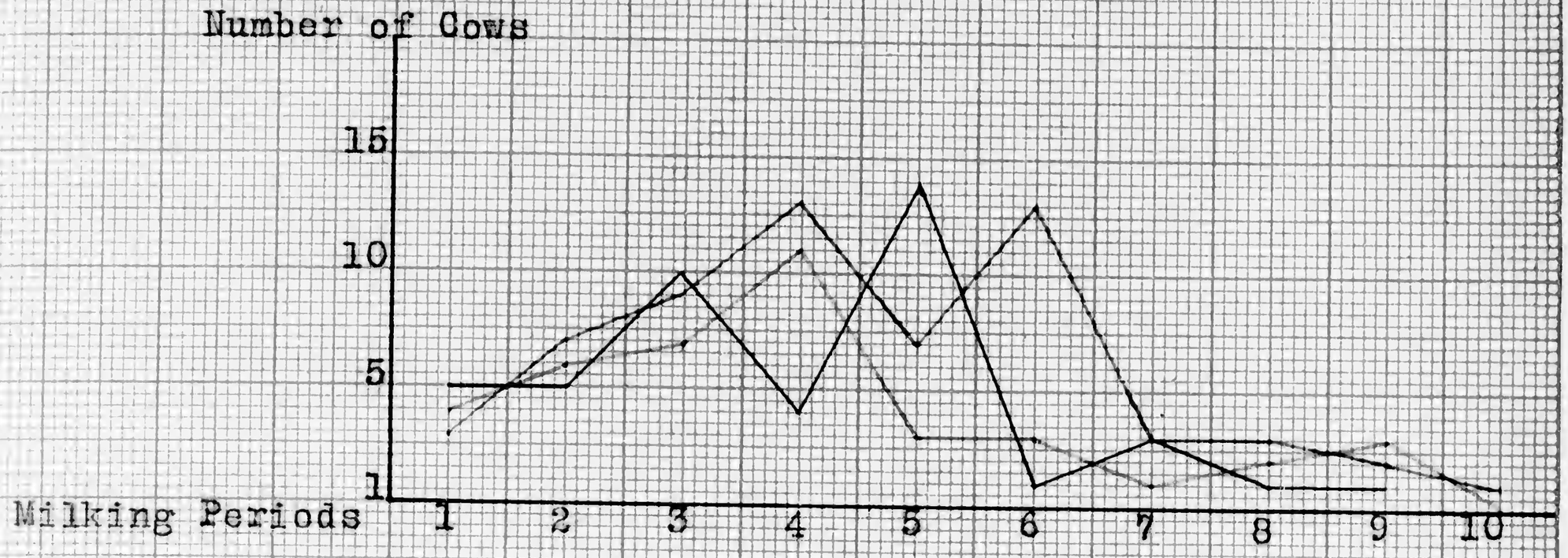
The results as shown graphically in Table 1, indicate that the average cow in the

College herd has yielded her highest production during the fourth and fifth milking periods with a possibility of holding up through the sixth period after which a steady decrease is shown.

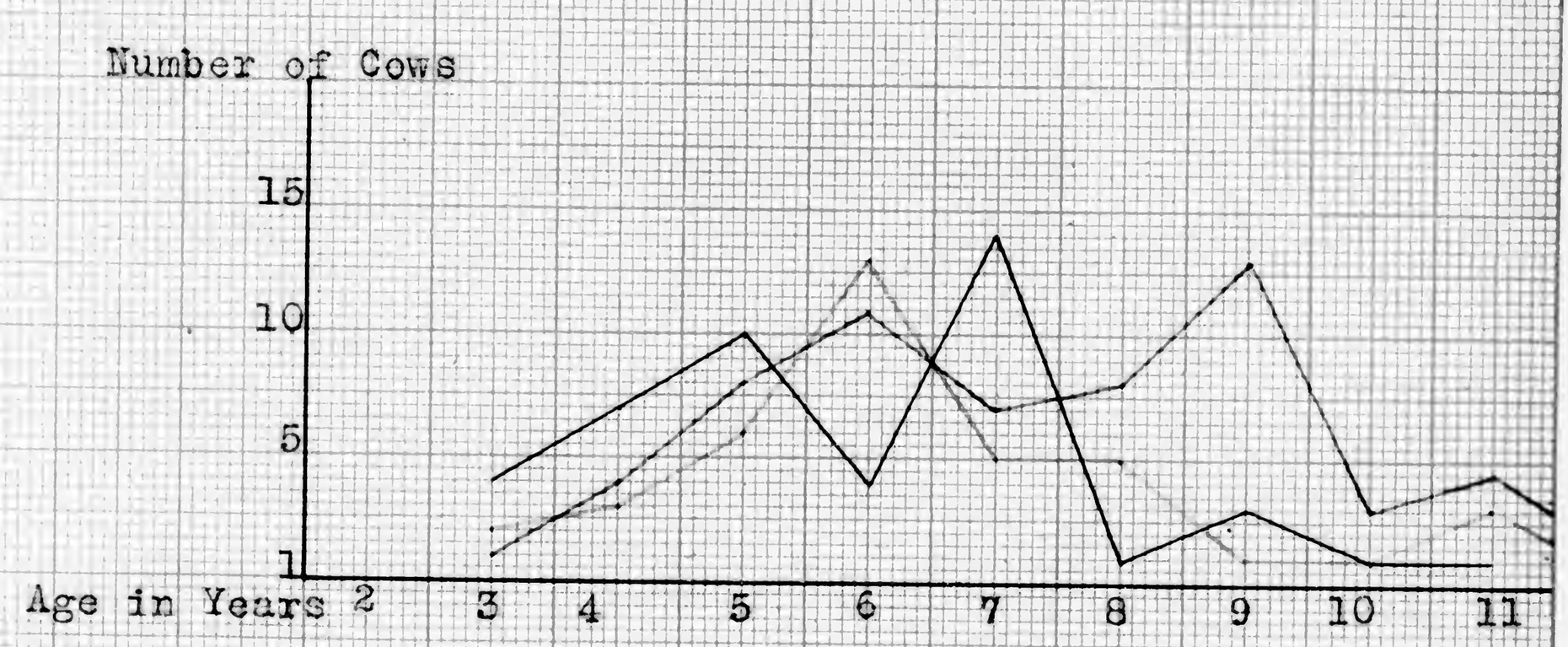
The ages corresponding to these periods of highest production are shown to be the sixth, seventh, and ninth years.

Table 1.

Showing Highest Production By Milking Periods.



Showing Age During Highest Production.



_____Lactation Periods

_____Twelve Month Periods

_____Calendar Year Periods

Can Any Variation in The Fat Content of Milk Be Traced to Age?

Table 2 shows the highest test by yearly periods of 60 cows with records of five years or more. It will be noted that in both Tables 2 and 3 the milk from a large percentage of the cows contained the highest fat content during the second milking period.

Table 2

Yearly Periods	1st	2nd	3rd	4th	5th	6th	7th	8th
No. of Cows	6	16	13	8	8	6	2	1
Percent. of Cows	10	27	22	13	13	10	3	2

Table 3 gives the average percentage of fat by lactation periods. This average is found by dividing the total fat by the total milk produced. There is little variation shown during the first five lactation periods, however, with advancing years a slight but steady decline is noticed. This decrease from year to year is very small when compared with the variation of individual cows.

Table 3

Effect of Age on Fat Content of Milk

No. of Cows	43	32	22	17
No. of Periods	5	6	7	8
Lactation Period Number	Average Percent Fat	Average Percent Fat	Average Percent Fat	Average Percent Fat
1	4.90	4.89	4.93	4.93
2	5.04	5.04	5.04	5.12
3	4.95	4.98	5.00	5.08
4	4.89	4.89	4.92	4.97
5	4.92	4.93	4.98	5.01
6		4.71	4.72	4.75
7			4.65	4.71
8				4.79
9				
10				
11				
12				

Table 3, Continued

Effect of Age on Fat Content of Milk

No. of Cows	11	8	6	2
No. of Periods	9	10	11	12
Lactation Period Number	Average Percent Fat	Average Percent Fat	Average Percent Fat	Average Percent Fat
1	4.94	4.95	4.98	4.73
2	5.16	5.07	5.07	4.95
3	5.17	5.03	5.02	5.11
4	5.03	5.03	5.11	5.18
5	5.01	5.01	5.04	4.94
6	4.72	4.69	4.80	4.80
7	4.70	4.66	4.83	4.82
8	4.82	4.71	4.75	4.61
9	4.79	4.74	4.76	4.56
10		4.59	4.76	4.70
11			4.75	4.59
12				4.39

Table 3, Continued

Effect of Age on Fat Content of Milk

Summary

Lactation Period Number	Percent Fat
1.	4.91
2.	5.06
3.	5.04
4.	5.00
5.	4.98
6.	4.74
7.	4.73
8.	4.74
9.	4.71
10.	4.68
11.	4.67
12.	4.39

The summary for Table 3 shows the average percentage of fat for each of the twelve lactation periods. These averages were found by dividing the sum of the fat percentages in each lactation period by the number of percentages.

Can Any Variation in The Milk Yield be Traced to Age?

It will be seen in Table 4 that the highest yield of milk is in the sixth milking period, showing that the average cow does not reach her highest production until between seven and eight years of age. In many cases dairy cows make their best records even later than this. A striking example of a persistent milker is found in the record of Sophia 2d, a grade Guernsey cow, in the present College herd, who just made her best record at the age of twelve years.

It should be borne in mind that the figures given are averages from which the different cows will vary widely, yet the data indicate the average along which the majority of cows will follow.

On the average then, a cow may be expected to yield her richest milk during the second milking period with but a small variation up to the sixth period when a slight decrease takes place with advancing age. On the other hand, the milk and fat production increases through the

first six milking periods and then decreases slowly with advancing age.

Table 4

Effect of Age on Milk Production

No. of Cows	53	41	27
Number of Yearly Periods	5	6	7
Yearly Period Number	Lbs.Milk	Lbs.Milk	Lbs.Milk
1	4298	4429	4397
2	5142	5269	5169
3	5321	5334	5412
4	5544	5660	5670
5	5377	5781	5868
6		5505	6348
7			5327
8			
9			
10			

Table 4, Continued

Effect of Age on Milk Production

No. of Cows	23	12	8
Number of Yearly Periods	8	9	10
Yearly Period Number	Lbs.Milk	Lbs.Milk	Lbs.Milk
1	4417	3754	3564
2	5288	5188	5233
3	5561	5889	5820
4	5634	5944	6064
5	5771	5607	5929
6	6232	6072	6188
7	5637	5764	5912
8	5216	5292	5181
9		6016	6323
10			5106

Summary

Milking Period Number
Pounds Milk

1. 4143
2. 5215
3. 5556
4. 5753
5. 5722
6. 6069
7. 5661
8. 5229
9. 6169
10. 5106

What Percentage of Her Highest Production is Given By a Heifer With Her First Calf?

In order to make the records comparable the cows were given credit for full twelve month periods. The records* of forty cows which had milked from four to eleven years, with a total of 260 milking periods, were tabulated. The results show that on the average, a heifer produced 76 per cent of her highest production with her first calf and 83 per cent with her second calf.

In the following table the highest yield of milk is expressed by 100 and the yield for other periods expressed in percents.

Comparison of Milk Production in Per Cent**

No. of Milking Period	No. of Cows	Milk Yield in Per Cent
1	53	68
2	53	86
3	53	92
4	53	95
5	53	95
6	41	100
7	27	93
8	23	86

* Records on Page 78-85. **Based on figures in Table 4.

Does Dropping a Calf Young Have Any Effect on the Later Production of a Dairy Cow?

In order to determine the average age at which a cow in the College herd freshens, the ages of 175 grade Guernsey cows, at their first calving, have been tabulated in the following table by six month periods. It will be noted that 73 per cent of the cows freshened between the ages of two and three years, the larger part of these freshening between the ages of 24 to 30 months. The average age, at which these cows (175) freshened, was found to be 29 months.

Age at First Calving

Age in Months	No. of Cows	Per Cent of Cows
18 to 24	21	12
24 to 30	75	43
30 to 36	52	30
36 to 42	27	15
Total	175	100

The following table, while dealing with only a small number of cows seems to indicate that

the age of calving does affect the milk production, for those calving between the ages of 30 and 36 months reached their highest production sooner than those calving earlier or later.

*Effect of Age at Calving on Milk Production

Age of Calving in Months	Lactation Periods 1	2	3	4	5	6	7	8	9	Total Number Cows
18 to 24	1'0	0	1	0	1	1	0	1		5
24 to 30	0	2	1	5	3	2	1	1	2	17
30 to 36	2	4	4	2	1	0	0	1	0	14
36 to 42	2	0	1	1	0	0	0	0	0	4

*Records of 40 cows with five or more lactation periods.

'These figures show the number of cows which produced their highest yield of milk under the corresponding lactation periods.

Even though late calving seems to induce a large milk production sooner than an early calving, yet on the average little difference is noted in the yield of fat. It will be seen, however, that there is a slight advantage in favor of late calving up to 36 months.

Effect of Age at Calving on Fat Production

Age at Calving in Months	Average Production of Fat
18 to 24	261
24 to 30	268
30 to 36	278
36 to 40	252

Descendants From Original Stock

One of the most interesting families in the College herd is the one descended from Handsome*, a pure bred Jersey cow, and Warwickshire. Some of the most persistent milkers resulted from this cross, but the average production decreased as the number of generations increased. Some of the cows in the fourth generation still carry some of the characteristic appearances of their Jersey ancestor.

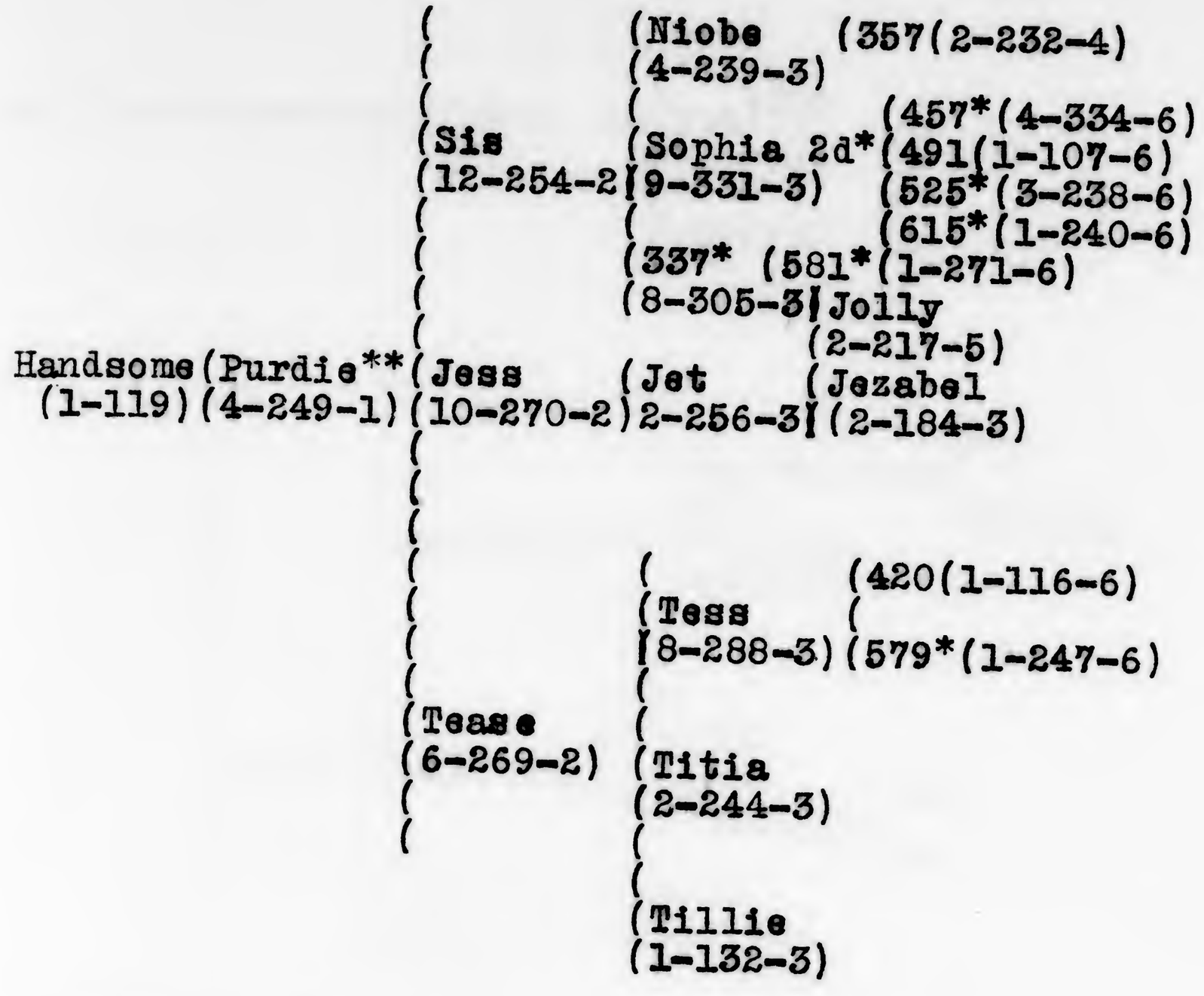
The following figures show the average fat production for each generation from the various sires.

Average Fat Production by Generations

Sire	Generation	Ave. Lbs. Fat	No. of Daughters
Warwickshire	First	249	1
Cora's Deputy	Second	264	3
Selectrina's College Boy	Third	247	8
Lucretia's Glenwood Boy of Haddon	Fourth	232	1
Success of Avon	Fourth	217	1
Glenwood of Mapleton	Fourth	222	7

* Purchased in 1892.

Descendants From Original Stock

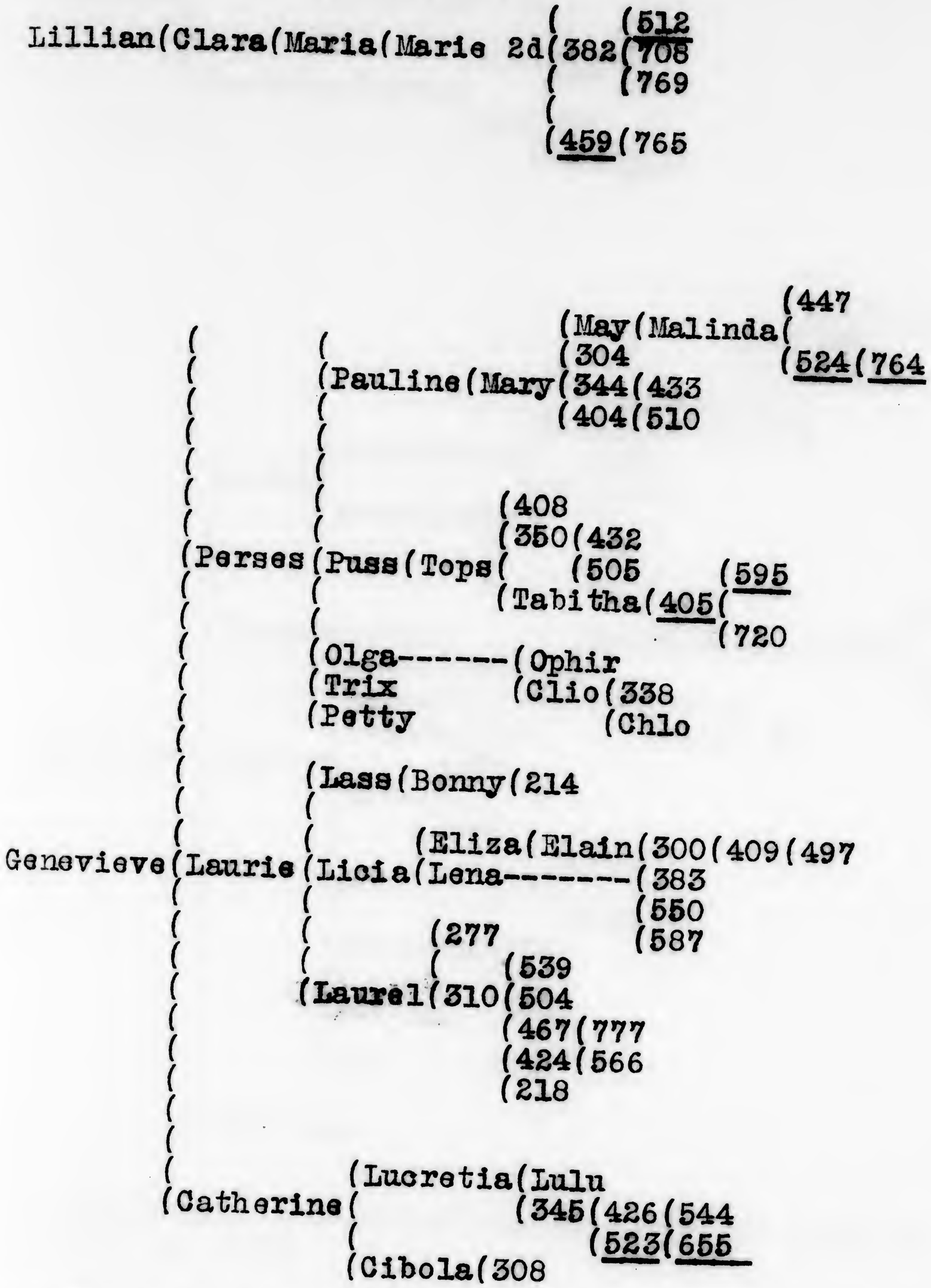


* In present herd.

** The meaning of the figures under each name is as follows:
The first figure denotes the number of lactation periods. The second figure is the average number of pounds of fat. The last figure refers to the respective sires listed below.

1. Warwickshire.
2. Cora's Deputy.
3. Selectrina's College Boy.
4. Lucretia's Glenwood Boy of Haddon.
5. Success of Avon.
6. Glenwood of Mapleton.

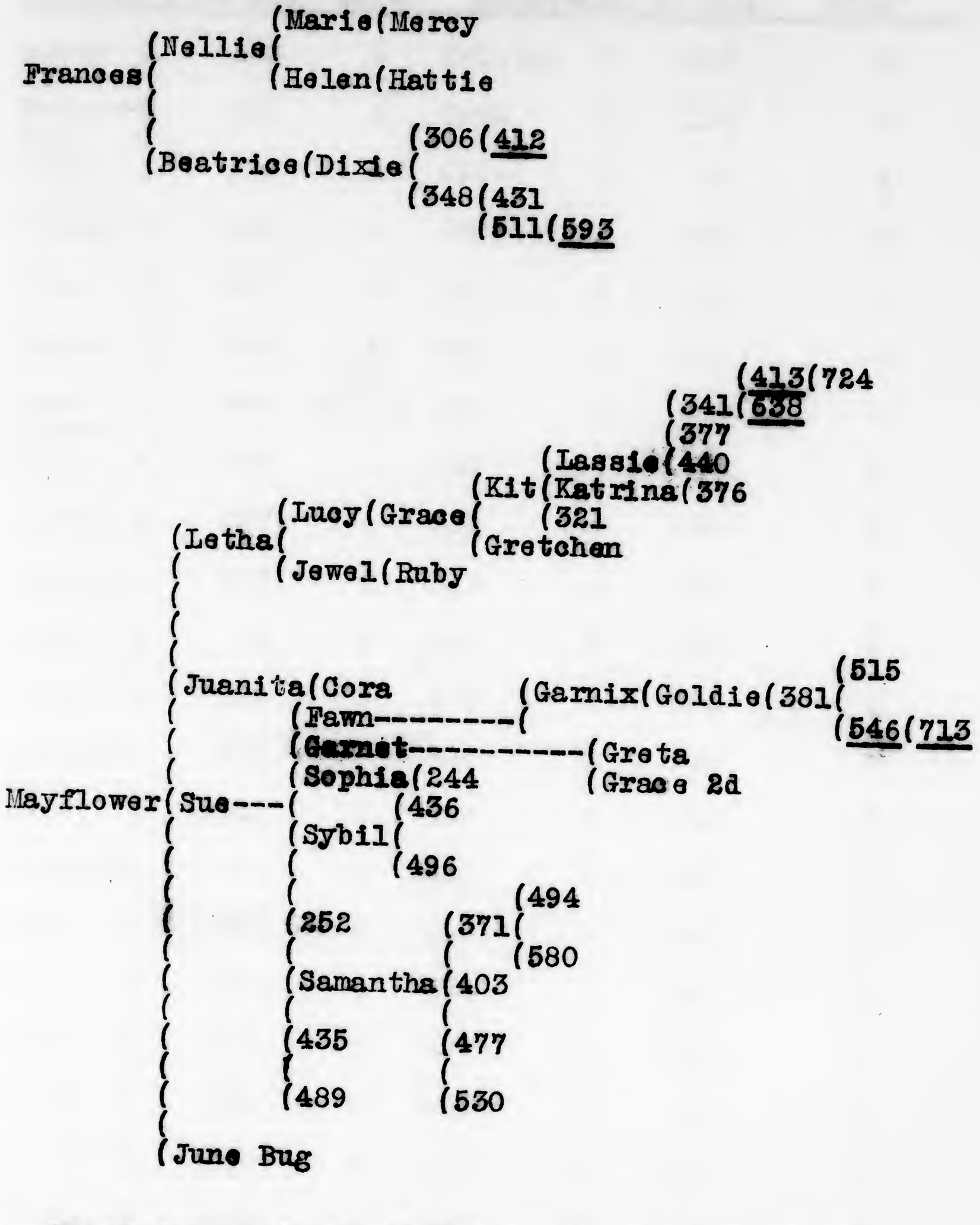
Descendants From Original Stock*



—— Those cows underlined are still in the herd at Jan. 1, 1916.

* Cows with their records are arranged alphabetically on page 20.

Descendants From Original Stock*



—Those cows underlined are still in the herd at Jan. 1, 1916.

* Cows with their records are arranged alphabetically on page 21.

Records of Descendants From Genevieve

Name	No. of Years	Ave. Lbs. of Fat	No. of Sire*	Name	No. of Years	Ave. Lbs. of Fat	No. of Sire*
Bonny	1	100	4	Tabitha	2	184	6
Cather-ine	9	248	2	Tops	1	119	4
Chlo	4	229	4	277	1	98	6
Cibola	2	213	4	300	2	266	5
Clio	3	207	6	310	4	163	5
Eliza	2	163	4	338	2	208	4
Gene-vieve	4	240	No Record	344	2	206	5
Lass	2	123	3	345	2	270	5
Laurel	4	227	6	350	3	250	5
Laurie	6	282	1	383	1	198	7
Lena	1	90	4	404	5	240	7
Licia	2	155	3	405	6	284	7
Lucret-ia	8	277	4	408	1	232	7
Lulu	1	160	6	409	2	242	7
Malinda	5	271	4	424	5	185	7
Mary	8	230	4	426	2	242	7
May	2	226	4	433	1	194	7
Olga	1	131	4	447	1	213	7
Ophir	2	256	5	504	1	81	7
Paul-ine	2	162	3	523	3	358	8
Perses	9	269	1	524	4	225	7
Petty	2	203	4	595	1	187	7
Puss	2	182	4	655	1	139	9

*See foot note on page 22.

Records of Descendants From Mayflower

Name	No.of Years	Ave.Lbs of Fat	No.of Sire*	Name	No. of Years	Ave.Lbs. of Fat	No.of Sire*
Fawn	1	98	3	Ruby	1	115	4
Garnet	4	229	4	Samantha	9	241	4
Garnix	2	140	6	Sophia	3	252	4
Goldie	2	139	4	Sue	13	243	3
Grace	1	100	3	Sybil	8	283	4
Grace 2d	3	246	6	341	8	264	4
Greta	3	118	6	376	3	331	5
Gretchen	1	107	4	381	2	277	5
Jewel	3	232	3	413	6	236	7
June Bug	2	163	3	435	1	96	7
Juanita	1	94	No Record	440	2	109	7
Katrina	4	233	4	515	1	223	7
Kit	9	259	4	546	3	240	7
Lassie	11	270	6	580	1	372	10
Letha	8	256	1	638	1	156	7
Lucy	2	196	3	713	3	251	9
Mayflow-er	8	264	No Record				

* See foot note on page 22.

Records of Descendants From Frances

Name	No.of Years	Ave.Lbs. of Fat	No.of Sire*	Name	No.of Years	Ave.Lbs. of Fat	No.of Sire*
Beatrice	6	231	1	Nellie	6	236	1
Dixie	13	301	3	306	5	264	4
Frances	8	222	No Record	348	3	237	5
Hattie	1	153	4	412	6	212	7
Helen	1	156	3	431	2	177	7
Marie	2	196	3	511	4	178	7
Mercy	1	104	4	593	1	121	No Record

Records of Descendants From Lillian

Name	No.of Years	Ave.Lbs. of Fat	No.of Sire*	Name	No.of Years	Ave.Lbs. of Fat	No.of Sire*
Clara	3	175	3	382	7	249	4
Lillian	8	295	No Record	459	5	234	7
Maria	5	310	4	512	3	266	7
Marie 2d6		300	6				

* These figures refer to the respective sires listed below.

1. Faucette's Wonder
2. Warwickshire
3. Cora's Deputy
4. Selectrina's College Boy
5. Lucretia's Glenwood Boy of Haddon
6. Success of Avon
7. Glenwood of Mapleton
8. Glenwood of Mainstay 6th
9. King of Barrington
10. Malcolm of Maplehurst

List of Cows in Herd in 1891

Name	Breed	Name	Breed
Bianca	Grade Short-Horn	Mayflower*	Grade Guernsey
Belle of the Forest	Guernsey	Mignonette	Grade Guernsey
Buttercup	Grade Jersey	Natalie	Unknown
Carmena	Jersey	Osmond	Unknown
Christine	Unknown	Prima Donna	Grade Short-Horn
Cowslip	Unknown	Primrose	Grade Guernsey
Daffodil	Grade Guernsey	Ramona	Grade Guernsey
Dahlia	Grade Ayrshire	Rosalie	Unknown
Daisy	Grade Jersey	Silvia	Unknown
Dorothy	Unknown	Sowers	Unknown
Dulce 3d	Guernsey	Veronica	Grade Short-Horn
Evangeline	Unknown	Floret 6th	Guernsey
Floret M	Guernsey	Frances*	Grade Guernsey
Genevieve*	Grade Guernsey	Gertrude	Grade Jersey
Gypsy Girl	Unknown	Hyacinth	Grade Jersey
Irene	Unknown	Jenet	Grade Short-Horn
Josephine	Grade Short-Horn	Lavendar	Unknown
Lillian*	Grade Guernsey	Lucia	Unknown
Lucky A	Unknown	Marigold	Grade Jersey
Marguerite	Grade Short-Horn	Handsome**	Grade Jersey

* These cows have descendants in the present herd.

** Purchased in 1892.

Cows in Present Herd From Original Stock

Dam	Offspring	Dam	Offspring
Lillian	512	Genevieve	524
	769		764
	459		405
	765		595
			523
			655
			777
	457		
	Sophia 2d	Frances	412
	337		511
Handsome	581		
	525		546
	615	Mayflower	713
	579		413
	751		638

List of Grade Guernsey Cows in Herd on January 1, 1916

337	655
Sophia 2d	674
405	615
412	624
413	760
457	764
459	772
512	785
523	795
524	713
525	745
546	751
579	769
581	
595	
638	

Influence of Pure Bred Guernsey Sires on Grade Guernsey Cows

Since the year 1890, The Pennsylvania State College has maintained a herd of grade Guernseys. This herd was established for the important study of the effects of pure bred sires on grade cows such as are found on the average dairy farm in Pennsylvania. From the beginning of the experiment daily milk, butterfat, and feed records have been kept for each cow and from these records the tables given below have been compiled.

Probably the most important factor upon which the success of dairying depends is the ability of the dairy cow to yield milk and butterfat economically. This ability is inherited and transmitted both by sire and dam to the offspring. On the fact the established system of grading up a dairy herd is based. In order then to determine whether or not this inherited characteristic is strong enough to produce milk profitably it is necessary to weigh and sample the milk from the individual cows. The amount of butterfat resulting from the weights and tests of milk from each cow is used as a basis for locating the "boarders" in the herd in the process of selection.

Providing that the ordinary breeder finds that some of his cows are not producing milk at a profit, he can at once dispose of them or by the use of pure bred sires soon raise the average yearly production of the herd. From a study of the records of The Pennsylvania State College herd it is readily seen that the latter system is possible.

Many factors have entered into the experiment since its beginning and some methods have been followed, for experimental purposes only, which would not have been tolerated by a private breeder, thus materially lowering the yearly production of the herd. For instance, it has been the duty at times, for the Dairy Husbandry Department, in collecting data on feeds and systems of feeding, to feed rations which were known to be deficient in some of the essential nutrients for milk production. Also, no selection has been practiced, every heifer calf being raised and kept in the herd regardless of its conformation and producing ability. A close study of the records which extend over a period of twenty-five years, indicates that the experiment has been successful even though the increase in yearly production has not been as high as it might have been had these important factors not entered into the original experiment.

The success of a grading up system depends largely upon selection and upon the choice of the herd sire. As stated above, selection is based upon individual records: the choice of a sire, upon pedigree, prepotency and conformation.

The sires used in the College herd from 1881 to 1913 and the number of their daughters completing one or more years work are as follows:

Faucette's Wonder, No. 2324, dropped January 10, 1889. Bred by Langhorne Wister of Duncannor, Pa. Ten Daughters. Sold to C. M. Muffley of Howard, Pa., in 1892.

Warwickshire, No. 2275, dropped November 11, 1888. Bred by Francis Shaw of Wayland, Mass. Seven Daughters. Sold to Mr. Beck of Nittany, Penna., in 1894.

Cora's Deputy, No. 3340, dropped March 5, 1893. Bred by Francis Shaw of Wayland, Mass. Twenty-nine Daughters. Sold in 1896.

Selectrina's College Boy, No. 4437, dropped January 5, 1896. Bred by H. McK. Twombly of Madison, N. J. Thirty-eight Daughters. Sold in 1906 on account of tuberculosis.

Success of Aven, No. 2900, dropped October 26, 1891. Bred by Samuel Kent, Fifteen Daughters. Sold in 1903.

Lucretia's Glenwood Boy of Haddon, No. 9264, dropped April 29, 1902. Bred by E. T. Gill of Hadonfield, N. J. Thirteen Daughters. Sold in 1906, on account of tuberculosis.

Glenwood of Mapleton, No. 9170, dropped August 4, 1903. Bred by J. B. Tallman of Fayetteville, N. Y. Twenty-nine Daughters. Sold for beef in 1913.

The following tables give the yearly production of the dams and their daughters from the several herd sires. Only the first year's milk and butterfat record is given in each case, since a study of the records show that the two-year old record is a safe basis upon which to judge the future production of an animal. In studying the records of eighty-one cows which are included in these tables, it was found that had these cows been culled upon the basis of their two-year-old records in only two cases would good cows have been sacrificed. In this connection the average variation in production between a two-year-old and a mature cow

should be borne in mind. In the College herd the average grade Guernsey produced 76 per cent of her highest production*, as a two-year-old, 83 per cent as a three-year-old, and 86 per cent at the age of four years.

To the practical breeder the records of The Pennsylvania State College herd make an interesting study, since they show the marked difference in the influence exerted by the several sires on the herd yields. The records are not phenomenal, yet they show a steady increase in production which would have been more pronounced had selection been practiced. In only one instance is the average record of the dams much greater than that of the daughters. In this case the sire, Cora's Deputy, from Imp. Countess Cora, failed to transmit the qualities which made the Cora family famous on the Island of Guernsey; although in several instances his daughters have been by far the best producers in the College herd.

* See Appendix.

Records of the Daughters of Faucette's Wonder

Daughters	Dams	First Year Lbs.Milk	First Year Lbs.Fat	Second Year Lbs.Milk	Second Year Lbs.Fat
Balsam	Heliotrope	3261.0	171.3		
Beatrice	Frances	6221.3	297.9	5753.0	247.3
Iona	Primrose	5202.0	257.7	5838.5	308.5
Letha	Mayflower	5081.1	243.5	5964.0	291.7
Nellie	Frances	6306.0	293.9	4987.0	242.7
Perses	Genevieve	2990.0	184.9	5689.1	329.8
Star	Marigold	4507.4	215.2	4472.0	214.0
Susan	Marguerite	3794.9	170.1		
Minerva	Mignonette	4557.0	266.4		
Eva	Bianca	4882.0	240.6		
Beauty	Genet	3930.0	191.1	5385.0	252.2
Laurie	Genevieve	7035.6	321.8	7193.0	322.4

Daughters	Dams	Third Year Lbs.Milk	Third Year Lbs.Fat	Fourth Year Lbs.Milk	Fourth Year Lbs.Fat
Beatrice	Frances	4589.0	210.6	4698.0	227.6
Iona	Primrose	5006.5	259.9	6372.0	307.5
Letha	Mayflower	5669.0	260.8	5172.0	246.6
Nellie	Frances	5465.0	258.1	5055.0	257.4
Perses	Genevieve	4441.8	255.6	3824.8	216.4
Laurie	Genevieve	5281.6	235.8	5933.0	271.8

Records of the Daughters of Faucette's Wonder

Daughters	Dams	Fifth Year		Sixth Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
Beatrice	Frances	5785.0	272.5		
Iona	Primrose	4299.0	218.2		
Letha	Mayflower	5461.0	263.8	5246.0	257.8
Nellie	Frances	4552.0	245.3	2856.4	151.8
Perses	Genevieve	3773.0	206.1	4936.0	267.1
Laurie	Genevieve	6837.5	326.4	5741.2	284.1

Daughters	Dams	Seventh Year		Eight Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
Letha	Mayflower	4341.0	211.1	5036.0	261.4
Perses	Genevieve	4803.0	264.1	6353.8	350.2

Daughters	Dams	Ninth Year	
		Lbs.Milk	Lbs.Fat
Letha	Mayflower	4207.0	205.6
Perses	Genevieve	6104.3	348.2

Records of the Daughters of Warwickshire

Daughters	Dams	First Year Lbs. Milk	First Year Lbs.Fat	Second Year Lbs.Milk	Second Year Lbs.Fat
Lilly	Lillian	3158.6	180.6		
Lucy	Chub	5400.3	276.9		
Purdie	Handsome	4074.8	219.6	5804.8	298.2
Sapphold	Dahlia	5773.4	258.3	4869.8	223.0
Catherine	Genevieve	6054.8	269.5	5313.8	249.3
Louise	Lilac	3460.8	180.3		
Betsy	Dinah	5977.6	296.8		

Daughters	Dams	Third Year Lbs.Milk	Third Year Lbs.Fat	Fourth Year Lbs.Milk	Fourth Year Lbs.Fat
Purdie	Handsome	4898.3	247.4	4181.7	229.4
Sapphold	Dahlia	5451.6	232.7	4719.3	208.7
Catherine	Genevieve	5758.8	253.3	3977.4	188.3

Daughters	Dams	Fifth Year Lbs.Milk	Fifth Year Lbs.Fat	Sixth Year Lbs.Milk	Sixth Year Lbs.Fat
Sapphold	Dahlia	5157.9	220.2		
Catherine	Genevieve	5982.7	275.5	6547.2	334.9

Daughters	Dams	Seventh Year Lbs.Milk	Seventh Year Lbs.Fat	Eight Year Lbs.Milk	Eight Year Lbs.Fat
Catherine	Genevieve	6895.3	330.7	3652.1	187.2

Records of the Daughters of Cora's Deputy

Daughters	Dams	First Year		Second Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
Alto	Prima Donna	3224.0	175.0		
Buttercup	Heliotrope	3281.1	158.3		
Clara	Lillian	4211.2	206.8	4236.8	206.0
Cowslip 2d	Daffodil	3080.9	139.2	4649.2	201.6
Dixie	Beatrice	4944.2	261.1	4458.5	246.4
Fawn	Sue	3500.8	189.5		
Gift	Mabel	4306.8	227.0	4230.4	213.4
Grace	Lucy	4491.7	218.2	3925.9	210.6
Helen	Nellie	4409.7	211.1		
Heliotrope2	Heliotrope	4419.8	216.3	4040.0	208.7
Iona 2d	Iona	3917.2	198.3	3886.9	214.7
Jess	Purdie	4407.2	199.9	5831.8	279.2
Jewel	Letha	4535.7	220.7	3462.4	171.0
June Bug	Mayflower	4342.7	208.0		
Lass	Laurie	2264.0	118.6	3000.0	160.2
Licia	Laurie	3877.3	182.6	3935.0	200.2
Louise 2d	Louise	3161.4	155.3		
Lora	Dora	3633.1	190.3	4311.0	231.3
Lucy 2d	Letha	4555.7	228.3	4530.9	241.1
Mabel 2d	Mabel	4356.9	205.5	2887.1	158.1
Marie	Nellie	4123.2	207.8	3632.5	186.4
Pauline	Perses	3375.8	188.7		

Records of the Daughters of Cora's Deputy (Cont.)

Daughters	Dams	First Year		Second Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
Puss	Perses	4468.7	210.4		
Ramona 2d	Ramona	2646.3	117.0	4132.7	173.6
Saffy	Sapphold	3533.0	146.9		
Sis	Purdie	3283.6	156.4	4255.2	193.0
Sue	Mayflower	6279.8	294.2	3770.8	200.7
Tease	Purdie	5905.9	248.9	6205.7	301.2
Violet	Primrose	5306.7	240.5	3992.0	214.6

Daughters	Dams	Third Year		Fourth Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
Cowslip 2d	Daffodil	5686.0	265.9	5715.2	281.8
Dixie	Beatrice	6904.4	377.1	6788.2	377.5
Gift	Mabel	3997.4	209.5	4646.2	237.6
Grace	Lucy	5387.5	281.4		
Jess	Purdie	6577.9	318.9	6197.6	286.8
Jewel	Letha	5617.6	270.2		
Lora	Dora	4466.2	237.2		
Lucy 2d	Letha	3010.0	164.0	4597.4	250.5
Marie	Nellie	3602.7	192.9		
Ramona 2d	Ramona	5811.4	261.4	6418.5	274.8
Sis	Purdie	4998.3	245.0	4900.8	251.7
Sue	Mayflower	5925.8	312.1	5283.7	277.7
Tease	Purdie	6731.9	306.0	7103.1	317.9

Records of the Daughters of Cora's Deputy (Cont.)

Daughters	Dams	Fifth Year Lbs.Milk	Fifth Year Lbs.Fat	Sixth Year Lbs.Milk	Sixth Year Lbs.Fat
Cowslip 2d	Daffodil	5428.0	241.4		
Dixie	Beatrice	5463.0	302.6	6159.7	316.3
Jess	Purdie	4883.6	200.5	7304.5	306.8
Ramona 2d	Ramona	6706.3	306.6	6161.7	282.4
Sis	Purdie	6074.9	309.4	6713.0	335.1
Sue	Mayflower	5064.7	262.3	5942.5	315.6
Tease	Purdie	4610.6	202.9	6084.1	270.8

Daughters	Dams	Seventh Year Lbs.Milk	Seventh Year Lbs.Fat	Eight Year Lbs.Milk	Eight Year Lbs.Fat
Dixie	Beatrice	5589.4	297.0	3774.2	220.5
Jess	Purdie	6421.9	266.4	6875.5	297.5
Ramona 2d	Ramona	3965.6	165.8	5509.0	209.9
Sis	Purdie	5936.0	296.5	6672.1	292.4
Sue	Mayflower	5347.3	268.5	5014.8	219.5
Tease	Purdie	4323.0	157.4		

Daughters	Dams	Ninth Year Lbs.Milk	Ninth Year Lbs.Fat	Tenth Year Lbs.Milk	Tenth Year Lbs.Fat
Dixie	Beatrice	7788.7	472.8	3574.7	199.3
Jess	Purdie	7458.8	315.0	4915.5	165.7
Ramona 2d	Ramona	4805.1	201.2	5337.2	217.5
Sis	Purdie	5845.4	268.5	5518.0	264.6
Sue	Mayflower	4878.6	222.6	4752.3	228.5
Tease	Purdie				

Records of the Daughters of Cora's Deputy (Cont.)

Daughters	Dams	Eleventh Year		Twelfth Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
Dixie	Beatrice	6007.4	222.2		
Ramona 2d	Ramona	4598.4	196.4		
Sis	Purdie	3801.5	192.1	4928.5	223.0
Sue	Mayflower				

Records of the Daughters of Selectrina's College Boy

Daughters	Dams	First Year		Second Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
306	Dixie	5868.5	271.5	5821.9	262.6
337	Sis	5659.3	277.6	5660.9	345.7
338	Clio	4688.6	248.2		
346	Violia	5810.2	205.5	5654.2	303.5
372	Sis	6588.0	287.5	5152.5	233.3
382	Marie	5027.2	261.5	4147.7	212.3
341	Lassie	6079.1	332.4	6889.5	367.3
Ceres	Letha	4261.0	205.8		
Chlo	Clio	4983.4	230.8	5279.5	289.2
Cibola	Catherine	6290.0	293.6		
Eliza	Licia	3796.0	209.2		
Floss	Beatrice	3764.0	194.4		
Garnet	Sue	3739.6	219.2	4009.4	230.0
Goldie	Garnix	3222.0	188.7		
Jet	Jess	4883.0	249.4	5935.0	299.6
Jezebel	Jet	4980.1	245.6	5186.0	243.0
Kate	Letha	3395.0	171.3		
Katrina	Kit	4419.8	224.3	5419.0	265.8
Kit	Grace	5350.8	290.5	5262.0	281.3
Lena	Letha	4617.9	219.1	5586.1	272.1
Lou	Letha	2845.0	161.1		
Lucretia	Catherine	3949.2	196.8	5394.3	287.1

Records of the Daughters of Selectrina's College Boy
(Cont.)

Daughters	Dams	First Year		Second Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
Malinda	May	6384.4	331.4	6044.0	320.5
Maria	Clara	5295.0	250.7	5753.0	284.1
Mary	Pauline	4041.0	218.4	5695.0	311.8
Niobe	Sis	3906.0	182.9	5862.0	282.1
Olga	Perses	3279.0	186.8		
Petty	Perses	4612.0	247.6		
Rachel	Ramona 3d	5255.3	239.2	5757.0	276.8
Rose	Gift	4530.0	242.1	5131.0	289.8
Ruth	Lucy 2d	5878.3	262.4	6118.0	271.5
Tops	Puss	5554.0	289.5	5998.5	315.8
Tina	Tease	6443.0	260.4	7161.8	292.5
Samantha	Sue	6233.1	305.7	4958.0	243.5
Sophia	Sue	4881.0	273.3	4686.0	225.0
Sophia 2d	Sis	7066.7	333.8	6925.4	354.1
Sybil	Sue	6568.2	324.2	5490.0	274.8
Tess	Tease	4615.0	217.7	5736.0	287.8

Daughters	Dams	Third Year		Fourth Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
306	Dixie	5978.0	284.7	4213.8	192.7
337	Sis	6331.9	333.4	8269.3	429.2
346	Violia	5552.2	273.4		
382	Marie	5429.7	278.4	2612.0	134.8

Records of the Daughters of Selectrina's College Boy (Cont.)

Daughters	Dams	Third Year		Fourth Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
341	Lassie	5001.7	241.3	5976.6	315.6
Chlo	Clio	3113.2	188.5	5434.4	259.8
Garnet	Sue	4835.9	278.6		
Jezebel	Jet	5242.0	255.3	6072.0	277.2
Katrina	Kit	6479.5	321.9		
Kit	Grace	7315.0	413.5	5202.0	296.5
Lena	Letha	5513.9	274.9	5874.2	294.7
Lucretia	Catherine	5654.4	295.8	4778.0	245.3
Malinda	May	5942.0	297.5	5127.6	274.2
Maria	Clara	6846.0	331.1	7237.0	336.7
Mary	Pauline	4916.5	273.9	4563.0	247.6
Niobe	Sis	5663.4	263.5	5034.7	227.9
Rachel	Ramona 3d	4830.0	217.1	5601.1	318.4
Rose	Gift	5344.0	306.2	5454.0	310.2
Ruth	Lucy 2d	5965.0	253.5		
Tops	Puss	6822.1	364.5	5950.0	304.8
Samantha	Sue	6341.8	288.8	6069.3	286.4
Sophia 2d	Sis	7795.0	367.2	6916.5	373.2
Sybil	Sue	6145.0	305.7	6177.2	299.0
Tess	Tease	Sold and bought back			

Records of the Daughters of Selectrina's College Boy (Cont.)

Daughters	Dams	Fifth Year Lbs.Milk	Lbs.Fat	Sixth Year Lbs.Milk	Lbs.Fat
382	Marie	6394.4	356.8	6899.8	309.6
341	Lassie	3507.1	196.3	6082.6	309.0
Kit	Grace	5065.0	250.0	5331.4	254.4
Lena	Letha	7991.4	374.9		
Lucretia	Catherine	5977.3	289.3	5924.0	277.4
Maria	Clara	7336.0	318.8		
Mary	Pauline	5538.0	269.8	5928.0	297.5
Rose	Gift	5277.0	268.7	5648.0	296.1
Tops	Puss	6371.0	302.7	6400.0	309.1
Samantha	Sue	5631.8	283.3	5638.3	279.0
Sophia 2d	Sis	6550.1	320.6	6915.6	306.7
Sybil	Sue	5825.0	313.7	4914.0	227.8
Tess	Tease	5038.0	232.4	6521.0	332.0

Daughters	Dams	Seventh Year Lbs.Milk	Lbs.Fat	Eight Year Lbs.Milk	Lbs.Fat
341	Lassie	4160.7	220.9		
Kit	Grace	5404.4	287.9	5024.3	254.5
Lucretia	Catherine	4902.2	242.0	7392.4	355.9
Mary	Pauline	3517.0	186.5	4657.0	248.9
Tops	Puss	6623.0	333.1	7333.0	356.2
Sophia 2d	Sis	7076.7	312.0		
Sybil	Sue	5900.6	265.4		
Tess	Tease	6639.0	291.2	5839.0	253.0

Records of the Daughters of Selectrina's College Boy
(Cont.)

Daughters	Dams	Ninth Year		Tenth Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
Tops	Puss	7132.0	342.4	7237.0	333.0
Tess	Tease	7653.7	339.3	7112.0	335.0

Records of the Daughters of Success of Avon

Daughters	Dams	First Year Lbs.Milk	Lbs.Fat	Second Year Lbs.Milk	Lbs.Fat
Clio	Olga	4777.0	266.6	4725.0	244.3
Countess	Heliotrope	3586.0	180.3	4829.0	252.7
Garnix	Garnet	4120.0	238.7		
Grace	Garnet	5044.0	258.2		
Jolly	Jet	4579.0	251.6	4549.5	237.5
Lassie	Kit	4913.2	284.2	4792.0	288.5
Laurel	Laurie	5158.1	325.8	4398.6	249.3
Maria	Clara	6165.0	348.6		
May	Mary	4625.0	271.3		
Ophir	Olga	5092.0	237.8		
Ramola	Ramona 3d	4512.0	226.1		
Sally	Sweetness	4466.0	201.7		
Sister	Sweetness	4332.0	229.6		
Tabitha	Tops	4565.0	252.6		
Viola	Violet 2d	5196.0	275.1	4949.0	249.1

Daughters	Dams	Third Year Lbs.Milk	Lbs.Fat	Fourth Year Lbs.Milk	Lbs.Fat
Countess	Heliotrope	4276.0	210.6		
Lassie	Kit	5903.0	313.6	5631.0	331.6
Laurel	Laurie	3831.7	224.5		

Daughters	Dams	Fifth Year Lbs.Milk	Lbs.Fat	Sixth Year Lbs.Milk	Lbs.Fat
Lassie	Kit	6183.0	351.0	5028.9	238.9

Records of the Daughters of Success of Avon (Cont.)

Daughters	Dams	Seventh Year Lbs.Milk	Lbs.Fat	Eight Year Lbs.Milk	Lbs.Fat
Lassie	Kit	6380.7	329.2	2376.3	127.7

Daughters	Dams	Ninth Year Lbs.Milk	Lbs.Fat	Tenth Year Lbs.Milk	Lbs.Fat
Lassie	Kit	6081.5	330.5	2706.9	154.6

Daughters	Dams	Eleventh Year Lbs.Milk	Lbs.Fat	Twelfth Year Lbs.Milk	Lbs.Fat
Lassie	Kit	4486.9	241.4		

Records of the Daughters of Glenwood Boy of Haddon

Daughters	Dams	First Year Lbs.Milk	First Year Lbs.Fat	Second Year Lbs.Milk	Second Year Lbs.Fat
300	Lena	5681.1	283.9	5310.0	263.1
307	Ruth	4566.5	232.8	6096.8	316.3
310	Laurel	4454.8	259.7	3687.0	196.6
344	Mary	5414.7	310.3		
345	Lucretia	5645.8	319.6		
348	Dixie	4691.3	269.5	5848.7	285.9
350	Tops	4544.0	262.5	4201.9	232.1
357	Niobe	5772.1	269.0	4717.4	230.4
362	Ramona 3d	4875.3	219.7	3945.3	180.6
363	Rachel	3686.8	185.3	2995.7	156.8
371	Samantha	5630.0	265.3	4143.4	194.8
376	Katrina	5632.9	262.1	4546.6	213.0
381	Goldie	5410.5	287.8	6029.0	302.4

Daughters	Dams	Third Year Lbs.Milk	Third Year Lbs.Fat	Fourth Year Lbs.Milk	Fourth Year Lbs.Fat
307	Ruth	5457.2	246.2	3778.2	192.3
310	Laurel	2604.7	143.4		
348	Dixie	3533.7	171.1		
350	Tops	4848.5	274.6		
362	Ramona 3d	7531.0	377.7	3022.7	285.4
371	Samantha	6677.8	351.0		
376	Katrina	4669.6	297.9		

Daughters	Dams	Fifth Year Lbs.Milk	Fifth Year Lbs.Fat	Sixth Year Lbs.Milk	Sixth Year Lbs.Fat
362	Ramona 3d	5545.0	285.4		

Records of the Daughters of Glenwood of Mapleton

Daughters	Dams	First Year		Second Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
344	Mary	5414.7	310.3		
345	Lucretia	5645.8	319.6		
398	Grace	4150.9	203.2	3087.9	166.9
404	Mary	3445.5	195.0	4509.5	248.7
405	Tabitha	4271.5	220.7	6020.1	303.2
409	300	4490.4	229.5	4986.2	265.2
412	306	4857.5	233.5	5116.8	255.9
413	341	5589.6	280.1	4379.1	246.8
424	310	4970.8	291.6	2911.9	173.3
426	345	6693.3	337.3		
431	348	4088.4	204.2	3667.5	209.9
432	350	4235.0	202.1		
434	338	3932.8	211.2	3782.3	194.5
440	Lassie	3613.9	215.8		
444	346	4886.5	284.7	3166.7	206.0
447	Malinda	5794.9	282.4		
457	Sophia2d	5583.5	304.3	5321.7	298.8
459	Marie	5378.8	267.0	4157.1	190.7
467	310	4462.6	234.0	4569.7	218.9
505	350	4795.6	262.8		
511	348	4238.6	202.9	5593.4	266.3
512	382	5253.1	337.7		

Records of the Daughters of Glenwood of Mapleton
(Cont.)

Daughters	Dams	First Year		Second Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
515	381	4184.4	224.9		
524	Malinda	5613.7	248.8	6222.5	276.4
525	Sophia 2d	4685.3	225.4		
546	381	4402.9	246.9		
579	Tess	5075.1	264.3		
581	337	6616.7	367.3		
595	405	3734.2	204.2		

Daughters	Dams	Third Year		Fourth Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
404	Mary	4002.9	233.2	5595.5	299.0
405	Tabitha	5816.4	307.4	5443.4	271.5
412	306	5759.2	269.9	4609.2	234.8
413	341	3682.0	175.3	6509.7	327.7
424	310	3845.1	188.4	5278.8	268.4
459	Marie	6198.2	276.2		

Daughters	Dams	Fifth Year		Sixth Year	
		Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
405	Tabitha	5734.6	293.1	5884.1	293.6

The following tables have been compiled from the preceding records. As stated before, only the

first year's milk and butterfat record are given, since it has been found that the two year old record is a fair basis upon which to judge the future production of an animal.

First Year's Fat Record of Faucette's Wonder's Daughters and Their Dams

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
Beatrice	6221.3	297.9	'Frances*	4374.0	182.5
Iona	5202.0	257.7	Primrose	4382.0	223.9
Lauris	7035.6	321.8	'Genevieve	4572.0	236.8
Letha	5081.1	243.8	Mayflower*	4467.0	215.5
Nellie	6306.0	293.9	'Frances*	4374.0	182.5
Perses	2990.0	184.9	'Genevieve	4572.0	236.8
Star	4507.4	215.2	Marigold	4022.0	208.1
Susan	3794.9	171.0	Marguerite*	6688.0	248.7
Eva	4882.0	211.9	Bianca	5790.0	199.8
Beauty	3930.0	194.7	Jenet	5913.0	235.7
Total	49950.3	2392.8		49154.0	2170.3
Average	4995.0	239.2		4915.4	217.0

First Year's Fat Record of Faucette's Wonder's Daughters and Their Dams

Average of Three Years Record

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
Beatrice	5521.1	251.9	Frances	4855.6	226.4
Iona	5349.0	275.3	Primrose	5642.6	308.6
Laurie	6503.2	293.3	Genevieve	4967.0	248.9
Letha	5578.0	265.3	Mayflower	4849.3	223.8
Nellie	5586.0	264.9	Frances	4855.6	226.4
Perses	4373.6	256.8	Genevieve	4967.0	248.9
Total	32910.9	1607.5		30137.1	1483.0
Average	5485.1	267.9		5022.8	247.1

* No fat record for first year. First year's record in College herd used.

' Dam of more than one daughter.

First Year's Fat Record of Warwickshire's Daughters and Their Dams

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
Lilly	3158.6	180.6	Lillian	5346.0	260.4
Lucy	5400.3	276.9	Chub	3356.0	171.9
Purdie	4074.8	219.6	Handsome	3429.1	181.3
Sapphold	5773.4	258.3	Sallie	4621.0	187.9
Catherine	6054.8	269.5	Genevieve	4572.0	236.8
Louise 1st	3460.8	180.3	Lilac	5750.4	261.1
Betsy	5977.6	296.8	Dinah	4090.0	213.3
Total	33900.4	1682.0		31164.5	1511.7
Average	4842.9	240.3		4452.1	215.9

There are no three year records for the daughters of Warwickshire.

First Year's Fat Record of Cora's Deputy's Daughters and Their Dams

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
Alto	3224.0	175.0	Prima Donna	5116.0	229.1
Buttercup	3281.1	158.3	Heliotrope	4836.0	291.7
Clara	4211.2	205.3	Lillian	5346.0	260.4
Cowslip 2d	3080.9	139.2	Daffodil	4549.0	208.8
Dixie	4944.2	261.1	Beatrice	6221.3	297.9
Fawn	3500.8	189.5	Sue	6279.8	294.2
Gift	4306.8	227.0	Mabel	4678.0	299.6
Grace	4491.7	218.2	Lucy	5400.3	276.9
Helen	4409.7	211.1	Nellie	6306.0	293.9
Heliotrope 2d	4419.8	216.3	Heliotrope	4836.0	291.1
Iona 2d	3917.2	198.3	Iona	5202.0	257.7
Jess	4407.2	199.9	Purdie	4074.8	219.6
Jewel	4535.7	220.7	Letha	5081.1	243.8
June Bug	4342.7	208.0	Mayflower	4467.0	215.5
Lass	2264.0	119.1	Laurie	7036.0	321.8
Licia	3877.3	182.6	Laurie	7036.0	321.8
Louise 2d	3161.4	155.3	Louise	3460.8	180.3
Lora	3633.1	190.3	Dora	3012.1	189.8
Lucy 2d	4555.7	228.3	Letha	5081.1	243.8
Mabel 2d	4356.9	205.5	Mabel	4591.0	299.6
Marie	4123.2	207.8	Nellie	6306.0	293.9

First Year's Fat Record of Cora's Deputy's Daughters and Their Dams (Cont.)

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
Pauline	3375.8	188.7	Perses	2990.0	184.9
Puss	4468.7	212.1	Perses	2990.0	184.9
Ramona 2d	2646.3	117.0	Ramona	5459.0	230.3
Soffy	3533.0	146.9	Sapphold	5773.4	258.3
Sis	3283.6	156.4	Purdie	4074.8	219.6
Sue	6279.8	294.2	Mayflower	4467.0	215.5
Tease	5905.9	248.9	Purdie	4074.8	219.6
Violet	5306.7	240.5	Primrose	4382.0	223.9
Total	117844.4	5721.5		143127.3	7268.2
Average	4063.6	197.3		4935.4	250.6

Average of Three Years Records

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
Dixie	5435.7	294.9	Beatrice	5521.1	251.9
Lucy 2d	4032.2	211.1	Letha	5571.3	265.3
Marie	3786.1	195.7	Nellie	5586.0	264.9
Sis	4179.1	198.4	Purdie	4926.0	255.1
Tease	6281.2	285.4	Purdie	4926.0	255.1
Jess	5605.3	266.0	Purdie	4926.0	255.1
Ramona 2d	4196.8	184.0	Ramona	7199.9	310.3
Cowslip	4472.0	202.0	Daffodil	5254.8	241.2
Jewel	4538.5	220.6	Letha	5571.3	265.3
Total	42526.9	2058.3		49482.4	2364.2
Average	4725.2	228.7		5498.0	262.7

First Year's Fat Record of Selectrina's College Boy's Daughters and Their Dams

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
306	5868.5	271.5	Dixie	4944.2	261.1
337	5659.3	277.6	Sis*	3283.6	156.4
338	4688.6	248.2	Clio	4777.0	266.6
346	5810.2	205.5	Viola	5196.0	275.1
372	6588.0	287.5	Sis*	3283.6	156.4
382	5027.2	261.5	Marie 2d	6165.0	348.6
341	6079.1	332.4	Lassie	4913.0	284.2
Ceres	4261.0	205.8	Letha*	5081.1	243.8
Chlo	4983.4	233.8	Clio	4777.0	266.6
Cibola	6290.0	293.6	Catherine	6054.9	292.6
Eliza	3796.0	209.2	Licia	3877.3	182.6
Floss	3764.0	194.4	Beatrice	6221.3	297.9
Garnet	3739.6	219.2	Sue*	6279.8	294.2
Goldie	3222.0	188.7	Garnix	4120.0	238.7
Jet	4883.0	249.4	Jess	4407.2	199.9
Jezebel	4980.1	245.6	Jet	4883.0	249.4
Kate	3395.0	171.3	Letha*	5081.0	243.8
Katrina	4420.0	224.3	Kit	5351.0	290.5
Kit	5351.0	290.5	Grace	5044.0	258.2
Lena	4617.9	219.1	Letha*	5081.1	243.8
Lou	2845.0	161.0	Letha*	5081.1	243.8

First Year's Fat Record of Selectrina's College Boy's Daughters and Their Dams (Cont.)

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
Lucretia	3949.2	196.8	Catherine	6054.9	292.6
Malinda	6384.4	331.4	Mary	4625.0	271.3
Maria	5295.0	250.7	Clara	4211.2	205.3
Mary	4041.0	218.4	Pauline	3375.8	188.7
Niobe	3906.0	182.9	Sis*	3283.6	156.4
Olga	3279.0	186.8	Perses*	2990.0	184.9
Petty	4612.0	247.6	Perses*	2990.0	184.9
Rachel	5255.3	239.2	Ramona 3d	2646.3	117.0
Rose	4530.0	242.1	Gift	4306.8	227.0
Ruth	5878.0	262.4	Lucy 2d	4555.7	228.3
Tops	5554.0	289.5	Puss	4468.7	212.1
Tina	6443.0	260.4	Tease*	5505.9	248.9
Samantha	6233.0	305.7	Sue*	6279.8	294.2
Sophia	5881.0	273.3	Sue*	6279.8	294.2
Sophia 2d	7066.7	333.8	Sis*	3283.6	156.4
Sybil	6568.2	324.2	Sue*	6279.8	294.2
Tess	4615.0	217.7	Tease*	5505.9	248.9
Total	189759.7	9353.1		180544.1	9099.5
Average	4993.6	246.1		4745.9	239.5

*Dam of more than one daughter.

First Year's Fat Record of Selectrina's College Boy's Daughters and Their Dams

Average of Three Years Records

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
306	5989.5	272.9	Dixie	5435.7	294.9
337	5884.0	318.9	Sis*	4179.1	198.4
341	5990.1	313.7	Lassie	5202.7	295.4
Garnet	4194.9	242.6	Sue*	5325.5	269.0
Katrina	5439.4	270.6	Kit	5975.6	328.4
Kit	5975.9	328.4	Grace	4601.7	236.9
Lena	5239.3	255.3	Letha	5578.0	265.3
Niobe	5143.8	242.8	Sis*	4179.1	198.4
Rose	5001.6	279.7	Gift	4178.2	216.6
Ruth	5987.1	263.5	Lucy 2d	4032.2	211.1
Samantha	5844.3	279.3	Tease	6281.2	285.3
Sophia 2d	7262.3	351.7	Sue*	5325.5	269.0
Sybil	6067.7	301.8	Sis*	4179.1	198.4
Tess	5129.6	245.9	Sue*	5325.5	269.0
Total	79049.5	3966.1		69799.1	3535.8
Average	5646.4	283.3		4985.6	252.5

*Dam of more than one daughter.

First Year's Fat Record of Success of Avon's Daughters and Their Dams

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
Clio	4770.0	266.6	Olga	3278.9	186.8
Countess	3586.0	180.3	Heliotrope 2d	4419.8	216.3
Garnix	4120.0	235.5	Garnet	3739.6	219.2
Grace 3d	5044.0	258.2	Garnet	3739.6	219.2
Jolly	4579.0	251.6	Jet	4883.1	249.4
Lassie	4913.2	284.2	Kit	5350.8	290.5
Laurel	5158.1	325.8	Laurie	7035.6	321.8
Marie 2d	6165.0	348.6	Maria	5294.7	250.7
Mary	4625.0	271.3	Mary	4040.8	218.4
Ophir	5092.0	234.6	Olga	3278.9	186.8
Ramona	4512.0	226.1	Ramona 3d	2646.3	117.0
Sally	4466.0	201.7	Sweetness	5096.0	298.3
Sister	4332.0	229.6	Sweetness	5096.0	298.3
Tabitha	4565.0	252.6	Tops	5553.5	289.5
Viola	5196.0	275.1	Violet	5306.7	240.5
Total	71130.3	3841.8		68760.3	3602.7
Average	4742.0	256.1		4584.0	240.2

Average of Three Years Records

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
Lassie	5202.7	295.4	Kit	5975.6	328.4
Laurel	4462.8	266.5	Laurie	6503.4	293.3
Total	9665.5	561.9		12479.0	621.7
Average	4832.7	280.9		6239.5	310.8

First Year's Fat Record of Lucretia's Glenwood Boy
of Haddon's Daughters and Their Dams

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
300	5681.1	283.9	Lena	4617.9	219.1
307	4566.5	232.8	Ruth	5878.3	262.4
310	4554.8	259.7	Laurie	5168.1	303.7
344	5414.7	310.3	Mary	4040.8	218.4
345	5645.8	319.6	Lucretia	3949.2	196.8
348	4691.3	269.5	Dixie	4944.2	261.1
350	4544.0	262.5	Tops	5554.0	289.5
357	5772.1	269.0	Niobe	3906.2	182.9
362	4875.3	219.7	Ramona 3d	2646.3	117.0
363	3686.8	185.3	Rachel	5255.3	239.2
371	5630.0	265.3	Samantha	6233.1	305.7
376	5632.9	262.1	Katrina	4419.8	224.3
381	5410.5	287.8	Goldie	3222.3	188.7
Total	66105.8	3427.5		59835.5	3008.8
Average	5085.1	263.6		4602.7	231.4

First Year's Fat Record of Lucretia's Glenwood Boy
of Haddon's Daughters and Their Dams

Average of Three Years Records

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
307	5373.5	265.1	Ruth	5987.1	262.5
310	3615.5	199.9	Laurel	4462.8	266.5
348	4691.2	242.2	Dixie	5435.7	294.8
350	4531.5	256.4	Tops	6124.8	323.3
362	5450.5	259.3	Ramona 3d	4196.8	184.0
371	5483.7	270.4	Samantha	5844.3	279.3
376	4949.7	257.6	Katrina	5439.4	270.6
Total	34094.6	1750.9		37490.9	1881.0
Average	4870.6	250.1		5355.8	268.7

First Year's Fat Record of Glenwood of Mapleton's Daughters and Their Dams

Daughters	Lbs. Milk	Lbs. Fat	Dams	Lbs. Milk	Lbs. Fat
344	5333.7	310.3	Mary	3575.8	188.7
345	5645.8	319.6	Lucretia	3949.2	196.8
398	4150.9	203.2	Grace 3d	5044.0	258.2
404	3445.5	195.0	Mary	3375.8	188.7
405	4271.5	220.7	Tabitha	4565.0	252.6
409	4490.4	229.5	300	5691.1	283.9
412	4857.5	233.5	306	5868.5	271.5
413	5589.6	280.1	341	6079.1	332.4
424	4970.8	291.6	310	4554.8	259.7
426	6693.3	337.7	345	5645.8	319.6
431	4088.4	204.2	348	4691.3	269.5
432	4235.0	202.1	350	4544.0	262.5
434	3932.8	211.2	338	4688.6	248.2
440	3615.9	215.8	Lassie	4913.2	284.2
444	4886.5	284.7	346	5810.2	205.5
447	5794.9	282.8	Malinda	6384.4	331.4
457	5583.5	304.3	Sophia 2d	5881.0	273.3
459	5378.8	267.0	Marie	4123.2	207.8
467	4462.6	234.0	310	4554.8	259.7
505	4795.6	262.8	350	4544.0	262.5
511	4238.6	202.9	348	4691.3	269.5

First Year's Fat Record of Glenwood of Mapleton's Daughters and Their Dams (Cont.)

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
512	5253.1	337.7	382	5027.2	261.5
515	4184.4	224.9	381	5410.5	287.8
524	5613.7	248.8	Malinda	6384.4	331.4
525	4685.3	225.4	Sophia 2d	5881.0	273.3
546	4402.9	246.9	381	5410.5	287.8
579	5075.1	264.3	Tess	4615.0	217.7
581	6616.7	367.3	337	5659.3	277.6
595	3734.2	204.2	405	4271.5	220.7
Total	140027.0	7412.1		145834.5	7584.0
Average	4828.5	255.6		5027.7	261.5

Average of Three Years Records

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
404	3985.9	225.6	Mary	4884.1	268.0
412	5244.5	253.1	306	5889.5	272.9
413	4550.2	234.1	341	5990.1	313.7
424	3909.3	217.8	310	3615.5	199.9
459	5244.7	244.6	Marie	3786.1	195.7
Total	22934.6	1175.2		24165.3	1250.2
Average	4586.9	235.0		4833.0	250.0

Summary of Records of the Several Herd Sires

Name of Sire*	Number of Daughters	Lbs.Milk	Lbs.Fat
Faucette's Wonder	10	4995.0	239.2
Warwickshire	7	4842.9	240.3
Cora's Deputy	29	4063.6	197.3
Selectrina's College Boy	38	4993.6	246.1
Success of Avon	15	4742.0	256.1
Lucretia's Glenwood Boy of Haddon	13	5085.1	263.6
Glenwood of Mapleton	34	4857.6	257.7

Name of Sire*	Number of Dams	Lbs.Milk	Lbs.Fat
Faucette's Wonder	10	4915.4	217.0
Warwickshire	7	4452.1	215.9
Cora's Deputy	29	4938.4	250.6
Selectrina's College Boy	38	4745.9	239.5
Success of Avon	15	4584.0	240.2
Lucretia's Glenwood Boy of Haddon	13	4602.7	231.4
Glenwood of Mapleton	34	5011.9	259.3

* Sires are arranged in order of their use in the herd.

Summary of Records of the Several Herd Sires

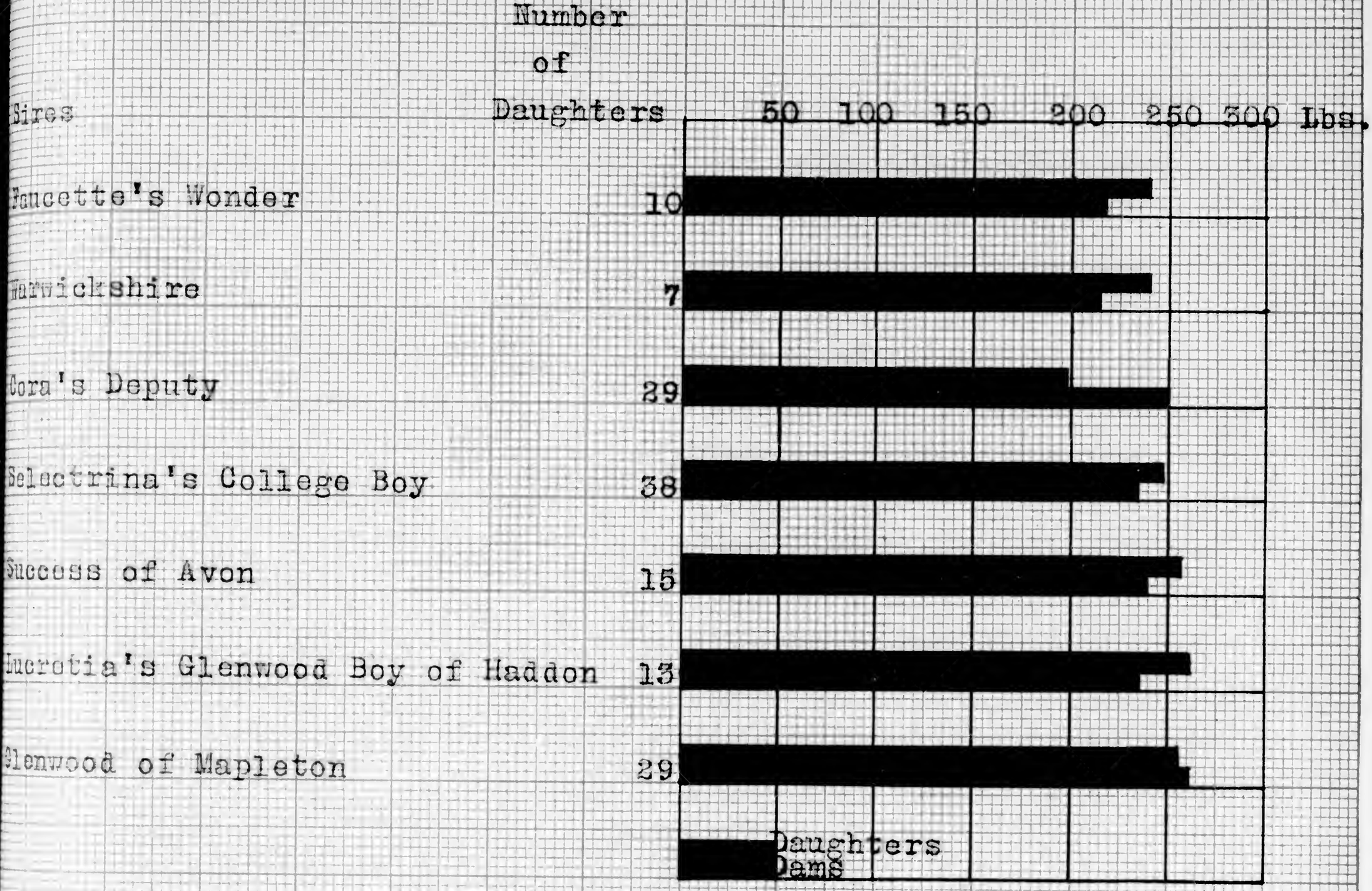
Average of Records for Three Years

Name of Sire*	Number of Daughters	Lbs.Milk	Lbs.Fat
Faucette's Wonder	6	5485.1	267.9
Warwickshire	No Three Year Records.		
Cora's Deputy	10	4655.9	226.9
Selectrina's College Boy	14	5646.4	283.3
Success of Avon	2	4832.7	280.9
Lucretia's Glenwood Boy of Haddon	7	4870.6	250.1
Glenwood of Mapleton	5	4586.9	235.0

Name of Sire*	Number of Dams	Lbs.Milk	Lbs.Fat
Faucette's Wonder	6	5022.8	247.1
Warwickshire	No Three Year Records.		
Cora's Deputy	10	5506.0	256.2
Selectrina's College Boy	14	4985.6	247.2
Success of Avon	2	6239.5	310.8
Lucretia's Glenwood Boy of Haddon	7	5355.8	268.7
Glenwood of Mapleton	5	4833.0	250.0

* Sires are arranged in order of their use in the herd.

First Year's Fat Record of Daughters and Their Dams.



Comparison of First Year's Record With Average of Three Years

Name of Sire		Number	First Year Record Milk	First Year Record Fat	Average of Three Years Milk	Average of Three Years Fat
Faucette's Wonder	Daughters	6	5477.1	266.6	5485.1	267.9
	Dams	6				
Cora's Deputy	Daughters	9	4163.7	196.3	4725.2	228.7
	Dams	9	4991.3	241.9	5498.0	262.7
Selectrina's College Boy	Daughters	14	5323.7	264.5	5646.4	283.3
	Dams	14	4885.1	243.3	4985.6	252.5
Lucretia's Glenwood Boy of Haddon	Daughters	7	4927.8	253.1	4870.6	250.1
	Dams	7	4977.7	251.9	5355.8	268.7
Glenwood of Mapleton	Daughters	5	4848.4	253.4	4586.9	235.0
	Dams	5	4840.3	252.0	4833.0	250.0
Average	Daughters		4948.1	246.8	5062.8	253.0
	Dams		4830.2	240.4	5139.0	256.2

First Year's Fat Record of Faucette's Wonder's Daughters* and Their Dams

Daughters	Lbs.Milk	Lbs.Fat	Dams	LbsMilk	LbsFat
Cena's Favorite	5218.3	266.5	Cena	4997.0	227.9
Floret's Faucette	4128.9	212.5	Floret 6th	4374.0	177.4
Floret Z	3972.8	198.6	Floret M	4465.0	202.5
Average	4440.0	225.9		4612.0	202.6

First Year's Fat Record of Cora's Deputy's Daughters* and Their Dams

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
Deputy's Floret	4216.6	225.9	Floret Z	3972.8	198.6
Floret Z 2d	2607.8	120.7	Floret Z	3972.8	198.6
Deputy's Faucette	5191.0	227.4	Floret's Faucette	4128.9	212.5
Cena's Favorite	3852.7	196.5	Cena's Favorite	5218.3	266.5
Deputy's Dulce	3789.2	190.1	Dulce 3d	3285.0	195.2
Average	3931.4	192.1		4115.5	214.3

First Year's Fat Record of Selectrina's College Boy's Daughters* and Their Dams

Daughters	Lbs.Milk	Lbs.Fat	Dams	Lbs.Milk	Lbs.Fat
Flovina	4805.7	229.0	Floret's Faucette	4128.9	212.5
Cena's Selectrina	4474.3	265.4	Cena's Favorite	5218.3	266.5
Penstate's Vina	4550.2	244.5	Avina	5217.4	264.5
Average	4610.4	246.3		4854.9	247.8

First Year's Fat Record of Glenwood of Mapleton's Daughters* and Their Dams

Daughters	Lbs. Milk	Lbs. Fat	Dams	Lbs. Milk	Lbs. Fat
Penstate's Cena-tu Glenwood	3744.1	205.2	Cena's Selectrina	4474.3	265.4
Penstate's Vina-tu Glenwood	4424.6	256.2	Avina	5217.4	264.5
Average	4084.4	230.7		4845.8	264.9

First Year's Fat Record of Lucretia's Glenwood Boy of Haddon's Daughters* and Their Dams

Daughters	Lbs. Milk	Lbs. Fat	Dams	Lbs. Milk	Lbs. Fat
Glenwood Flovina	6141.0	352.0	Cena Selectrina	4474.3	265.4

* Pure bred daughters.

Even though the numbers of pure bred daughters are very few, the records show that the sires exerted the same influence on the fat yield of their pure bred daughters as they did upon the production of their grade daughters. In the case of Selectrina's College Boy, however, the pure bred daughters did not show an increase in fat production over their dams as did the grade daughters.

Reasons For Disposal of Dairy Cattle,

1891 to 1916

	Number	Per Cent
Condemned*	15	5.8
Beef and old age	142	55.5
Barrenness	13	5.1
Tuberculosis	42	16.4
Lump Jaw	2	0.8
Abortion	1	0.4
Died	23	8.9
No Record	18	7.0
Total	256	99.9

* No record as to meaning of condemned.

SUMMARY

From a study of the herd records the following conclusions have been drawn:

1. Cows in this herd increase in milk production through the sixth and seventh years with a possibility of holding up through the ninth year of age.
2. Variation in fat content of milk may be traced to age; the richest milk being given in the second lactation period, after which a slight decrease in quality takes place.
3. Age also causes a variation in the milk yield, since the production of milk increases through the first six milking periods and then decreases slowly with advancing age.
4. A heifer may be expected to produce 76 per cent of her highest production with her first calf and 83 per cent with her second calf.
5. Late calving seems to induce a large milk production sooner than an early calving, yet on the average little difference is noted in the yield of fat. There is a slight advantage in favor of late calving up to 36 months in milk production.

6. Twelve and five-tenths per cent of the original stock have descendants in the present herd.

7. Of the seven herd sires used, only two failed to increase the milk production of their daughters over that of their dams. This comparison was made on the first year records which were found to be as fair a basis of comparison as the average record for three years.

In the case of Success of Avon and Lucretia's Glenwood Boy of Haddon, the first year records of the daughters are larger than those of their dams while the average of three years records credit the dams with a larger production than that of their daughters.

8. The reasons for the disposal of the cattle together with the percentages of each are as follows: condemned 5.8 per cent, beef and old age 55.5 per cent, barrenness 5.1 per cent, tuberculosis 6.4 per cent, lump jaw 0.8 per cent, abortion 0.4 per cent, died 8.9 per cent, no record of disposal 7.0 per cent.

APPENDIX

Pedigree of Faucette's Wonder, 2324

Shearman 3d
- Imp. Shearman 448
  - Faucette 4th 1019
    - Susquehanna 113
    - Imp. Faucette 493
      - Imp. Faucette 493
        - No Record
        - No Record

Pedigree of Warwickshire, 2275

Imp.Squire of Larchmont
911

- Squire of Les Vauxbelete,
  35
- Vestal of Larchmont
  1507

Fern Leaf
1636

- Imp. Fernwood
  190
- Imp. Kathleen
  38

Pedigree of Cora's Deputy

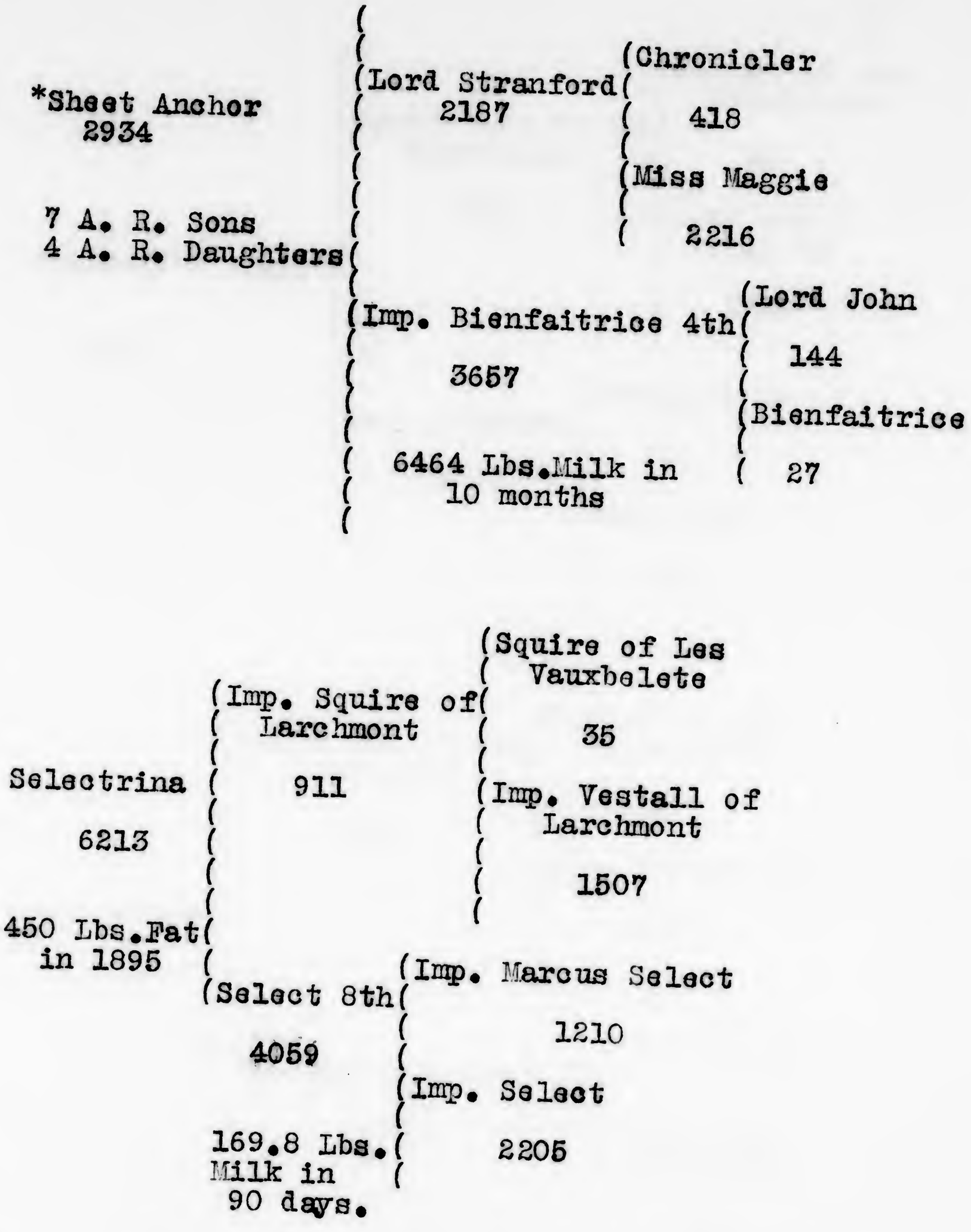
Imp. Deputy 2917	Vulcan 5th 344	
	Princess May 1479	
Imp. Countess Cora 5950	Sir Francis 234	
	Lyly 718	

Imp. Deputy as a yearling won First prize on the Island of Guernsey. As a three-year-old he headed the dairy herd at the Columbian Exposition and took Second prize.

Imp. Countess Cora was from the famous Cora strain on the Island of Guernsey. She was entered in th 90 day butter and cheese contest at the Columbian Exposition.

Cora's Deputy was dropped at the World's Fair.

Pedigree of Selectrina's College Boy, 4437



* At Trenton he defeated his sire who was champion Guernsey bull at the Columbian Exposition.

Pedigree of Success of Avon, 2900

Tricksey's Squire
2542

- Squire 4th of Les Vauxbelete 771
  - Squire of Les Vauxbelete 35
  - Lady Emily Foley 2d 1700
- Imp. Tricksey 1760
  - Champion 2d 130
  - Lady Bird 604

Young Purdy
4815

- Squire 5th of Les Vauxbelete 1269
  - Squire of Les Vauxbelete 35
  - Imp. Silver Gem 2479
- Imp. Les Cheminant 2d 841
  - No Record
  - Imp. Les Cheminant 754

Pedigree of Lucretia's Glenwood Boy of Haddon

9264

Glenwood's Mainstay

6067

20 A. R. Daughters
10 A. R. Sons

- Mainstay 3789 (9 A. R. Daughters, 3 A. R. Sons)
  - Sheet Anchor 2934 (7 A. R. Sons, 4 A. R. Daughters)
  - Rutillas' Daughter 6670
- Glenwood Girl 6th 9113 (12187 Lbs. Milk, 572.3 " Fat)
  - Holton 2d 2828
  - Imp. Glenwood Girl 1693

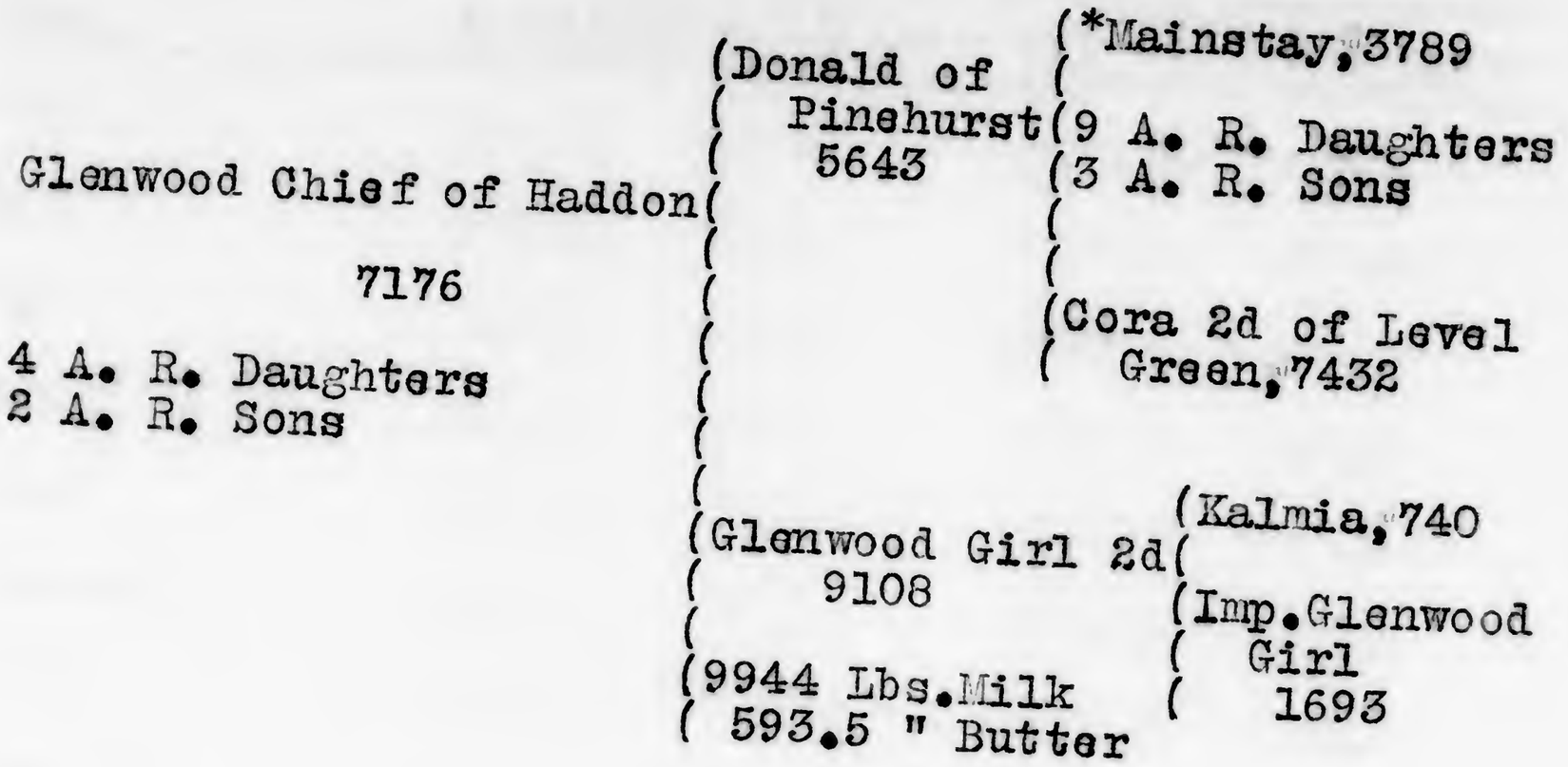
Lucretia's Daughter

11256

11,084 Lbs. Milk
489.6 " Fat

- Pat of Haddon 3919 (4 A. R. Daughters, 1 A. R. Son)
  - Darius of Sunnyside 2716
  - Imp. Bess of Ogier 835
- Lucretia 802
  - Duke S 234
  - Daisy Dew 509

Pedigree of Glenwood of Mapleton, 9170



* Sired by Sheet Anchor, 2934.

Records Based on Twelve Month Periods

Name	First Year		Second Year	
	Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
306	5868.5	271.5	5821.9	262.6
307	4566.5	232.8	6096.8	316.3
337	5868.5	271.5	5821.9	262.6
404	3445.5	195.0	4509.5	248.7
Chlo	4983.4	230.2	5279.5	289.2
Jezebel	4980.1	245.6	5186.0	243.0
Gift	4306.8	227.0	4230.4	213.4
Lucy 2d	4555.7	228.3	4530.9	241.1
Malinda	6384.4	331.4	6044.0	320.5
Niobe	3906.0	182.9	5861.9	282.1
Rachel	5255.3	239.2	5757.0	276.8
362	4875.3	219.7	3945.3	180.6
382	5027.2	261.5	4147.7	212.3
405	4271.5	220.7	6020.1	303.2
Beatrice	6221.3	297.9	5753.0	247.3
Iona	5202.0	257.7	5838.3	308.5
Cowslip 2d	3080.9	139.2	4649.2	201.6
Lena	4617.9	219.1	5586.1	272.1
Maria	5295.0	250.7	5753.0	284.1
Nellie	6306.0	293.9	4987.0	242.7
Laurie	7036.0	322.8	7193.0	322.4

Records Based on Twelve Month Periods
(Cont.)

Name	First Year		Second Year	
	Lbs. Milk	Lbs. Fat	Lbs. Milk	Lbs. Fat
Rose	4530.0	242.1	5131.0	289.8
Samantha	6233.0	305.7	4958.0	243.5
Sophia 2d	7066.7	335.6	6925.4	354.1
341	6079.6	332.4	6889.5	367.3
Sybil	6568.2	324.2	5490.0	274.8
Tease	5905.9	248.9	6205.7	301.2
Kit	5351.0	290.5	5262.0	281.3
Mary	4041.0	218.4	5695.0	311.8
Lucretia	3949.2	196.8	5394.3	287.1
Letha	5081.1	243.5	5964.0	291.7
Perses	2990.0	184.2	5689.1	329.8
Tops	5555.4	289.5	5998.5	315.8
Tess	4615.0	217.7	5736.0	287.8
Jess	4407.2	199.9	5831.8	279.2
Sue	6279.8	294.2	3770.8	200.7
Lassie	4913.2	284.2	4792.0	288.5
Dixie	4944.2	261.1	4458.5	246.4
Ramona 2d	2646.3	117.0	4132.7	173.6
Sis	3283.6	156.4	4255.2	193.7

Records Based on Twelve Month Periods

(Cont.)

Name	Third Year		Fourth Year	
	Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
306	5978.0	284.7	4213.8	192.7
307	5457.2	246.2	3778.2	192.3
337	5978.0	284.7	4213.8	192.7
404	4002.9	233.2	5595.5	299.0
Chlo	3113.2	188.5	5434.4	259.8
Jezebel	5252.0	255.3	6072.0	277.2
Gift	3997.4	209.5	4646.2	237.6
Lucy 2d	3010.0	164.0	4597.4	250.5
Malinda	5942.0	297.5	5127.5	274.2
Niobe	5663.4	263.5	5034.7	227.9
Rachel	4830.0	217.1	5601.0	318.0
362	7531.0	377.7	3022.7	146.8
382	5429.7	278.4	2612.0	134.8
405	5816.4	307.4	5443.4	271.5
Beatrice	4589.0	210.6	4698.0	227.6
Iona	5006.5	259.9	6372.0	307.5
Cowslip 2d	5686.0	265.9	5715.2	281.8
Lena	5513.9	274.9	5874.2	294.7
Maria	6846.0	331.1	7237.0	336.7
Nellie	5465.0	258.1	5055.0	257.4
Laurie	5281.6	235.8	5933.0	271.8

Records Based on Twelve Month Periods

(Cont.)

Name	Third Year		Fourth Year	
	Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
Rose	5344.0	306.2	5454.0	310.2
Samantha	6341.8	288.8	6069.3	286.4
Sophia 2d	7795.0	367.2	6916.5	373.2
341	5000.7	241.3	7976.0	313.6
Sybil	6145.0	305.7	6172.2	299.0
Tease	6731.9	306.0	7103.6	317.9
Kit	7315.0	413.5	5202.0	296.5
Mary	4916.5	273.9	4563.0	247.6
Lucretia	5654.4	295.8	4778.0	245.3
Letha	5689.0	260.8	5172.0	246.6
Perses	4441.8	255.6	3824.8	216.4
Tops	6822.1	364.5	5950.0	304.8
Tess	Sold and Bought Back			
Jess	6577.9	318.9	6197.6	286.8
Sue	5925.8	312.1	5283.7	277.7
Lassie	5903.0	313.6	5631.0	331.6
Dixie	6904.4	377.1	6788.2	377.5
Ramona 2d	5811.4	261.4	6418.5	274.8
Sis	4998.3	245.0	4900.8	251.7

Records Based on Twelve Month Periods

(Cont.)

Name	Fifth Year		Sixth Year	
	Lbs.Milk	Lbs. Fat	Lbs.Milk	Lbs.Fat
362	5545.0	285.4		
382	6044.9	310.2		
405	5734.6	293.1		
Beatrice	5785.0	272.5		
Iona	4299.0	218.2		
Cowslip 2d	5428.0	241.2		
Lena	7991.4	374.9		
Maria	7336.0	318.8		
Nellie	4552.0	245.3	2856.4	151.8
Laurie	6837.5	326.4	5741.2	284.1
Rose	5277.0	268.7	5648.0	296.1
Samantha	5648.0	283.3	5638.3	279.0
Sophia 2d	6550.1	320.6	6915.6	306.7
341	3507.1	196.3	6082.6	309.0
Sybil	5825.0	313.7	4914.0	227.8
Tease	4610.6	202.9	6084.1	270.8
Kit	5065.0	250.0	5331.4	254.4
Mary	5538.0	269.8	5928.0	297.5
Lucretia	5977.3	289.3	5924.0	277.4
Letha	5461.0	263.8	5246.0	257.8
Perses	3773.0	206.1	4936.0	267.1

Records Based on Twelve Month Periods

(Cont.)

Name	Fifth Year		Sixth Year	
	Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
Tops	6371.0	302.7	6400.0	309.1
Tess	5038.0	232.4	6521.0	332.0
Jess	4883.6	200.5	7304.5	306.8
Sue	5064.7	262.3	5942.5	315.6
Lassie	6183.0	351.0	5028.9	238.9
Dixie	5463.0	302.6	6159.7	316.3
Ramona 2d	6706.3	306.6	6161.7	282.4
Sis	6074.9	309.4	6713.0	335.1

Name	Seventh Year		Eight Year	
	Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
341	4160.7	229.0		
Sybil	5900.8	265.4		
Tease	4323.0	157.4		
Kit	5404.4	287.9	5024.3	254.5
Mary	3517.0	186.5	4657.0	248.9
Lucretia	4902.2	242.0	7392.0	355.9
Letha	4341.0	211.1	5036.0	261.4
Perses	4803.0	267.1	4803.0	264.1
Tops	6623.0	333.1	7333.0	356.2
Tess	6639.0	291.2	5839.0	253.0

Records Based on Twelve Month Periods

(Cont.)

Name	Seventh Year Lbs.Milk	Lbs.Fat	Eight Year Lbs.Milk	Lbs.Fat
Jess	6421.9	266.4	6875.5	297.5
Sue	5347.3	268.5	5014.8	219.5
Lassie	6380.7	329.2	2376.3	127.7
Dixie	5589.4	297.0	3774.2	220.5
Ramona 2d	3965.6	165.8	5509.0	209.9
Sis	5936.0	296.5	6672.1	292.4

Name	Ninth Year Lbs.Milk	Lbs.Fat	Tenth Year Lbs.Milk	Lbs.Fat
Letha	4207.0	205.6		
Perses	6353.8	350.2	6104.3	348.2
Tops	7132.0	342.4	7237.0	333.0
Tess	7653.7	339.3	7112.0	335.0
Jess	7458.8	315.0	4915.5	165.7
Sue	4878.6	222.6	4752.3	228.5
Lassie	6081.5	330.5	2706.9	154.6
Dixie	7788.7	472.8	3574.7	199.3
Ramona 2d	4805.1	201.2	5337.2	217.5
Sis	5845.4	268.5	5518.0	264.6

Records Based on Twelve Month Periods

(Cont.)

Name	Eleventh Year		Twelfth Year	
	Lbs.Milk	Lbs.Fat	Lbs.Milk	Lbs.Fat
Lassie	4486.9	241.4		
Dixie	6007.4	222.2		
Ramona 2d	4598.4	196.4		
Sis	3801.5	192.1		

End of Title